Plea Bargaining and Penal Orders

An empirical approach to disappearing criminal trials

Procesafspraken en strafbeschikkingen

Een empirische benadering van verdwijnende strafprocessen

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Chapter 1 Introduction

1.1. Motivation and goals

The declining use of ordinary trials in criminal procedure has been described as a global phenomenon over the last thirty years (Russell and Hollander, 2017). The expansion of procedural rights worldwide since the end of the 20th century has been coupled with incentives to reduce the use of those same rights (Thaman, 2010). The reason is that criminal trials has been rendered too cumbersome and lengthy, and thus not suitable as ordinary case disposition tools (Thaman, 2007). Consequently, the desire to minimize the use of trials has been defined as a universal objective of criminal justice systems (Hodgson, 2015).

The decline of trials has resulted in a "triumphal march of consensual procedural reforms" (Thaman, 2010, p.156) directed at ensuring a swift disposal of criminal cases, with a minimal investment of judicial resources. Some of those procedures, such as conditional dismissals, diversion, and victim-offender mediation, terminate cases without imposing formal criminal convictions (Thaman, 2010). However, the present thesis is focused on the study of those consensual mechanisms that result in the imposition of criminal convictions without trial, namely plea bargaining and penal orders. This choice is primarily motivated by the fact that a criminal conviction constitutes the most serious potential outcome of a criminal proceeding, since it enables the imposition of criminal punishments, it impacts defendants' rights through a wide array of collateral consequences, and it generally entails a public declaration about an individual's guilt. Furthermore, differently from other case-terminating decisions, criminal convictions share a few core features across all criminal justice systems, thus enabling a meaningful global comparison about the ways in which criminal convictions themselves are imposed. The imposition of criminal convictions without trial has been labeled as "administratization of criminal convictions" (Langer, 2021). Consequently, the term "administratization methods" and "administratization procedures" will be used throughout this thesis when referring to plea bargaining and penal orders.

Despite the relevance of administratization mechanisms for the functioning of contemporary criminal justice systems worldwide, a systematic and comprehensive account of their adoption and use is still lacking. Legal comparative papers typically focus on a handful of jurisdictions, with special regard to the U.S., France, Germany, and Italy (Ma, 2002; Langer, 2004; Turner,

2006, 2016; Hodgson, 2015), while descriptions of the local plea-bargaining regimes do not exist in English for many jurisdictions. More recent reports adopt a wider cross-country perspective, but they are still fairly limited in the number of jurisdictions covered (Fair Trials, 2017). Partly because of this, cross-country empirical research about the determinants of use of plea bargaining and penal orders is virtually non-existent (Givati, 2014; Langer, 2021). Similarly, empirical legal studies about the use of plea bargaining in practice abound with regard to the U.S. (Subramanian et al., 2020), but they are extremely scarce with reference to other jurisdictions (Boari and Fiorentini, 2001; Stephen et al., 2008; Wu, 2020). Empirical legal studies about the use of penal orders are altogether non-existent to date.

Therefore, the present thesis aims to expand the current knowledge about the administratization of criminal convictions worldwide by answering the following research questions:

1. What is the current level of adoption and use of administratization procedures worldwide?

2. What factors influence a jurisdiction's choice of adopting administratization procedures?

3. What factors explain the different levels of use in practice of administratization procedures across jurisdictions?

4. What jurisdiction-specific factors can further drive the use in practice of administratization procedures?

1.2. Defining plea bargaining and penal orders

The present section is devoted to defining the terms plea bargaining and penal orders.

1.2.1. Plea bargaining

Plea bargaining is an institution of criminal procedure, according to which defendants are convicted if they explicitly accept to plead guilty or to otherwise waive their right to trial, in exchange for some benefits from the State, typically in the form of a reduced sentence.

A conviction imposed through plea bargaining is thus exclusively grounded in the agreement between the parties, i.e. defendants and prosecutors. Many jurisdictions require judges to check that a factual basis exists for the content of the plea agreement.[1] However, this requirement only implies that the agreement is somehow supported by existing evidence, but it does not require

[1] See e.g. Brady v. United States, 397 U.S. 742 (1970) for the U.S.; Article 495-9 Code of criminal procedure for France.

that the agreement itself reproduces the objective truth: convictions following plea bargaining are always based on the agreement, and not on the ascertainment of the true facts.[2]

Consequently, plea-bargaining procedures reflect the so-called "consensus theories" of truth, typically associated with the adversarial model of criminal procedure (Weigend, 2011). According to such conceptions, procedural truth "is what reasonable people agree upon after a complete and fair discourse" (Weigend, 2011, p.395). Such conception of truth, being relative and consensual, appears conducive towards the disposition of criminal cases by agreement (Langer, 2004).

Plea bargaining is regarded as a typically adversarial institution not only because of its adherence to consensual conceptions of truth, but also because it constitutes expression of the parties' control over the procedure (McEwan, 2011). In fact, adversary proceedings have been characterized as party-controlled, in contrast with the officially-controlled proceedings typical of the inquisitorial model (Damaška, 1973). Plea bargaining is then associated with the party-controlled model, also known as dispute model, because "it is natural in any dispute that the parties can negotiate a resolution" (Langer, 2004, p.22).

However, despite its consonance with the adversarial model, plea bargaining is today allowed in many jurisdictions of inquisitorial tradition. In the process of adoption by those jurisdictions, plea bargaining necessarily underwent a process of adaptation, or legal translation (Langer, 2004) that has resulted in the modification of some chore features, as it will be discussed in detail in Chapter 2. For this reason, the term "plea bargaining" might confound and it requires a few qualifications. First, the term "bargaining" might be misleading since the defendant's agreement is not always the result of negotiations. Indeed, in most jurisdictions belonging to the inquisitorial tradition, plea bargaining is rewarded with a sentence discount whose size cannot be decided by the parties, being instead established by law beforehand. Similarly, in many jurisdictions belonging to the adversarial tradition, guilty pleas are rewarded with sentence discounts whose size is defined by the procedural stage in which the plea itself is entered, with little to no room left to negotiations. Consequently, the term "bargaining" is firmly refused in many jurisdictions, even when a system of sentencing discount for guilty pleas is explicitly established (Baldwin and McConville, 1979; Brook et al., 2016). Second, the term plea-bargaining is typically associated with the U.S. model, which is the most studied in the literature, and the most influential one, but to which many systems do not conform (Langer,

[2] For example, for this reason a sentence imposed through plea bargaining in Italy cannot be used as evidence in other proceedings, contrary to sentences imposed at trial. See Peroni (2019).

2004). Alternative denominations have been proposed (Voigt, 2021), by emphasizing different aspects of the procedure, as in the case of sentence agreements or trial waiver systems (Fair Trials, 2017). However, I opted for keeping on using the term "plea bargaining" because of its status in the Law and Economics and comparative legal literature.

Further specification is needed with reference to the agreement's potential objects. In this regard, the literature identifies three types of plea bargaining (Langer, 2021). *Charge bargaining* takes place when some charges are dropped, or the defendant is allowed to plead guilty to a lesser charge than the original one. *Fact bargaining* involves an agreed narration of the facts underlying the criminal case. *Sentence bargaining* entails only a sentence reduction, whose entity can be negotiated between the parties or directly set by law. It is possible to observe plea bargaining also in jurisdictions that only reward guilty pleas with sentence discounts, without allowing the parties to set the contours of the case through charge and fact bargaining. Consequently, the types of benefits that defendants can secure through guilty pleas do not constitute a definitory element of plea-bargaining procedures.

Finally, it should be noted that the more lenient treatment accorded to defendants in case of confession in many systems of inquisitorial tradition does not amount to plea bargaining. One reason is that a confession alone cannot sustain a conviction, since the quest for the substantive truth still requires a thorough investigative activity (Hodgson, 2016; Grande, 2016). Another reason is that the extent of leniency granted in the case of confessions is not regulated nor bargained, but left to the discretion of the judge, unlike in formalized plea-bargaining procedures.[3] A final reason is that the formalization of plea-bargaining procedures is nearly always considered as problematic in jurisdictions that already rewarded confessions with more lenient sentencing, thus signaling the different nature of plea bargaining.[4]

1.2.2. Penal orders

Penal orders are an institution of criminal procedure, according to which a criminal conviction can be imposed on a defendant already during the investigation stage, being based exclusively on the results of the official investigation as reported in the investigation dossier. The conviction becomes final with the defendant's consent, otherwise the case will be adjudicated at trial.

[3] Similar considerations hold in the case of guilty pleas rewarded with sentencing leniency in adversarial jurisdictions, in the absence of regulated plea-bargaining systems.
[4] See e.g. Cercanese (2017) for Italy, Rauxloh (2011) for Germany.

As will be explained in detail in Chapter 2, some jurisdictions require the defendant's explicit consent. However, most jurisdictions and the first historical model of penal orders treat the defendant's inertia as implicit consent. Accordingly, penal orders result in final criminal convictions if defendants do not oppose them within a limited time.

It is important to notice that, even if both plea bargaining and penal orders can be qualified as consensual mechanisms, the role played by consent in the two procedures is radically different. In fact, the consent of both parties, i.e. defendant and prosecutor, constitutes the sole and sufficient basis for the imposition of the criminal conviction in plea bargaining. Instead, in penal orders, the defendant's consent provides legitimacy for the avoidance of trial, but it does not constitute the basis for the imposition of the conviction. The conviction is in fact based on the results of the official investigation.

Consequently, penal orders reflect the so-called "correspondence theory" of truth, typical of the inquisitorial model of criminal procedure (Weigend, 2011). According to this theory, a legitimate sentence must correspond to the reality of the facts of the case. In turn, a non-adversarial investigation carried out by a neutral state official is regarded as the best method for ascertaining such objective truth (Langer, 2004; Weigend, 2011).

By imposing criminal convictions solely based on the results of the investigation dossier, penal orders do not differ widely from ordinary inquisitorial trials. Indeed, inquisitorial trials are typically conceived as audit of the activities carried out during the state-lead investigation (Damaška, 1986; McEwan, 2011), so that at the end of the pre-trial stage everything is potentially already decided (Hodgson, 2015). Through their consent to penal orders, defendants just renounce to challenge at trial the results of the investigations, but they do not provide an alternative basis for the criminal conviction, as in plea bargaining. In this sense, it also becomes clearer why the simple defendant's inertia is considered sufficient in most jurisdictions: a thorough investigation has already been completed, the state official has already looked into both incriminating and exculpating evidence, and the content of the dossier corresponds to the true facts. The system does not need anything else to impose a legitimate conviction if the defendant does not show an interest in challenging the contents of the investigation dossier.[5]

The reliance on the contents of the investigation dossier in turn descends from the role traditionally attributed to prosecutors, and to investigating judges, in inquisitorial jurisdictions.

[5] Not all cases are suitable for penal orders, as it will be discussed in greater detail in Chapter 2. In fact, most jurisdictions require that the facts of the case be established with sufficient clarity before issuing a penal order. If the factual situation is not so clear, a trial will still be needed to ascertain the true facts.

Differently from adversarial prosecutors, inquisitorial ones are not conceived as parties, on the same level of the defense, but as "impartial magistrates of the state whose role is to investigate the truth" (Langer, 2004, p.24). Inquisitorial prosecutors are then characterized by a "quasi-judicial stance and professional ethics" (Brants, 2018, p.71) so that the findings of their investigations are regarded as impartial and corresponding to the objective truth.[6]

Differently from the adversarial model, truth-finding in inquisitorial procedure does not require a debate between two parties, each one presenting opposing views of the case based on two independent investigations (Ringnalda, 2014). Instead, the contents of the investigation dossier are considered truthful even if not challenged in cross-examination (Brants and Fields, 2016).

In so much as plea bargaining embodies typical adversarial features, penal orders constitute a typically inquisitorial institution. As will be discussed in detail in Chapter 2, this has limited the expansion of penal orders in comparison to plea bargaining. As a result, penal orders have also received far less attention in the Law and Economics and legal comparative literature. However, they still constitute an administratization procedure adopted all over the world, that accounts for the majority of criminal convictions in many jurisdictions.

1.3. Law and Economics literature on administratization procedures

The Law and Economics literature on administratization procedures has been exclusively focused on plea bargaining, with only limited and occasional attention devoted to penal orders. A possible explanation is that the U.S. legal system has traditionally attracted far more attention in the Law and Economics literature compared to all other jurisdictions. Since plea bargaining dominates the U.S. criminal justice practice, while penal orders are virtually unknown outside of jurisdictions of inquisitorial tradition, the imbalance in the extant literature is easily explained. A possible further reason lies in the fact that the early Law and Economics analyses of plea bargaining were modeled after similar analyses about out-of-court civil settlements (Spier, 2007). Such an initial approach influenced most of the subsequent economic analysis of plea bargaining (Garoupa and Stephen, 2008), but it does not fit penal orders, because of the absence of negotiation-like features as in plea bargaining. However, it is worth noting that much of the theoretical results concerning plea bargaining can be extended to penal orders, because of the common nature of the two procedures as consensual administratization mechanisms.

[6] This is a typical assumption of the inquisitorial tradition that does not necessarily holds in all instances. For a discussion see e.g. Brants and Fields (2016).

Because of the lack of research into penal orders, this section will only review the Law and Economics theoretical literature on plea bargaining.

The first formal analysis of plea bargaining was developed by Landes (1971). The model assumes that prosecutors maximize the convictions imposed, considering both the number of convictions and the severity of the imposed sentences. Landes' model shows that the choice of plea bargaining over trial is influenced by the following factors: the estimated probability of conviction at trial; the expected sentence following conviction at trial; the resource constraints of both prosecutors and defendants; the total costs of settlement *vis-à-vis* trial; risk attitudes. The model shows that more favorable plea agreements are offered when the probability of conviction at trial and the expected sentence are lower, and when the costs of trial are higher. Based on the model results, Landes (1971) argues that the prevalence of plea bargaining in the U.S. criminal justice practice signals that in most cases prosecutors and defendants share the same view about the expected outcome of trial, the costs of trial exceed the costs of settlement for both parties, and defendants are generally risk averse.

A second formal analysis was proposed by Adelstein (1978), by developing a dynamic model in which both parties exploit the passing of time in order to impose costs on the other parties and to secure a more favorable plea agreement. As in the model by Landes (1971), prosecutors maximize the number and severity of convictions imposed. The passing of time influences the costs of trial and settlement for both parties. On the one hand, the strength of some categories of evidence decreases with time (e.g. witnesses' credibility, due to fading memories about past events) thus making convictions harder to achieve for prosecutors, while benefitting defendants. On the other hand, if defendants are in pretrial detention, the passing of time imposes increasing costs both on defendants, due to the obvious opportunity and psychological costs associated with detention,[7] and on prosecutors, due to the necessity of utilizing a larger part of their budget for maintaining a population of pretrial detainees. Overall, the surplus derived from settlements decreases with the passing of time, especially for prosecutors. Consequently, plea negotiations might fail, even when plea bargaining was initially possible, if the bargaining process takes too long. Contrary to most other models, in Adelstein (1978) prosecutors do not make take-it-or-leave-it offers, but they make offers and receive counteroffers, as in behavioral dynamic bargaining models called DEA, or "Decision/Expectation/Adjustment" (Cross, 1969).

[7] The passing of time most likely increases the costs of the procedure also for defendants not in pretrial detention, due to the opportunity costs of investing resources in the defense, the uncertainties about their own legal status, and psychological and reputational costs of being criminal defendants.

The third model was developed by Grossman and Katz (1983). Contrary to Landes (1971) and Adelstein (1978) prosecutors do not simply maximize the number and severity of convictions. Instead, the prosecutors' utility function incorporates the social welfare losses caused by type I (conviction of innocent) and type II (acquittal of guilty) errors. The analysis by Grossman and Katz (1983) is the first one to advocate in favor of the social welfare effects of plea bargaining, rather than simply showing under which conditions plea agreements take place. In particular, Grossman and Katz (1983) show that plea bargaining can act as both insurance and screening device. The model assumes that prosecutors and defendants agree about the expected probability of conviction at trial, and that prosecutors only make one take-it-or-leave-it offer. Plea bargaining acts as an insurance device for society when all defendants in a sample are guilty, because it imposes a conviction with certainty, thus ruling out the possibility of a wrongful acquittal (type II error) at trial. Plea bargaining acts instead as screening device in the more realistic case that some of the defendants are factually innocent. In this case, prosecutors offer plea deals such that the sentence imposed is equal to expected sentence imposed at trial for factually guilty defendants, considering both the likelihood of conviction and the severity of the charged crime's punishment. Consequently, only factually guilty defendants accept the offer, while the factually innocents opt for trial, since the expected punishment at trial for them is lower than the plea-bargaining offer.[8] However, when defendants have different risk propensities, plea bargaining cannot perfectly separate innocent and guilty defendants. The reason is that risk-loving guilty defendants will opt for trial, while risk averse innocent defendants will accept the plea-bargaining offer. Nevertheless, Grossman and Katz (1983) argue that plea bargaining is still beneficial for society, compared to a situation where plea bargaining is banned, for two reasons. On the one hand, plea bargaining still acts as an insurance device for society, since risk averse guilty defendants will accept the prosecutor's offer, thus ruling out the possibility of wrongful acquittals at trial. On the other hand, plea bargaining still allows partial separation, since prosecutors can calibrate plea-bargaining offers so that they are accepted by risk averse guilty defendants but rejected by risk loving innocent defendants.

A fourth model, developed by Reinganum (1988), does not explore the desirability of plea bargaining *per se*, but rather the optimal degree of prosecutorial discretion, given that a plea-bargaining regime is in place. This model adopts the same objective function for prosecutors, and for society at large, introduced by Grossman and Katz (1983). Consequently, prosecutors

[8] Factually innocent defendants enjoy lower probabilities of conviction at trial, based on the assumption that trials have positive probabilities of ascertaining defendants' true guilt.

pursue three objectives: avoiding the conviction of innocent defendants (type I errors); avoiding the acquittal of guilty defendants (type II errors); saving resources spent on trials. As in most other models, prosecutors make only one take-it-or-leave-it offer. This model is characterized by asymmetric information on both sides. In particular, prosecutors have private information about the strength of the case, while defendants have private information about their actual guilt. Actual guilt and the case's strength are assumed to be jointly distributed, so that factually guilty defendants face stronger cases. Additionally, as in Grossman and Katz (1983), stronger cases correspond to higher probabilities of conviction at trial. Based on these assumptions, Reinganum (1988) compare the social welfare properties of unrestricted and restricted prosecutorial discretion. Under unrestricted discretion, prosecutors can selectively drop cases, and they can offer different plea deals to defendants charged with the same crimes. Under restricted discretion, prosecutors are instead bound to offer the same deal to all defendants charged with the same crime. The model yields that unrestricted discretion is preferred when a high enough proportion of defendants is factually guilty, while restricted discretion is preferred when a high proportion of defendants is factually innocent. The model also predicts that trial is more likely for stronger cases, because defendants are more likely to reject higher sentence offers and the size of the offered sentence in turn increases with the strength of cases.

A further model, developed by Franzoni (1999), considered the influence of plea bargaining on the investigative efforts exerted by prosecutors. The model assumes that prosecutors make plea-bargaining offers based on the evidence available when the defendant is initially reported, before a full-scale investigation has been carried out. As in Grossman and Katz (1983) and Reinganum (1988), plea-bargaining offers are rejected by innocent defendants. Differently from previous models, the probability of conviction at trial is not exogenous, but it depends on the subsequent investigation effort exerted by prosecutors. However, upon observing an offer's rejection, prosecutors will update their beliefs about defendants' actual guilt. In detail, since all innocent defendants reject plea agreements, prosecutors will lower their subsequent investigative effort, believing that at least a fraction of all investigated defendants is factually innocent. Consequently, because of reduced investigative effort, the probabilities of conviction at trial will be lowered also for factually guilty defendants who rejected plea offers. As a result, plea bargaining might induce under-deterrence, even if it ensures cost-saving.[9]

[9] Instead, if plea bargaining is exclusively allowed at the end of the prosecutorial investigation, it will only save trial costs, but it will have no negative impact on prosecutorial investigative efforts and hence on deterrence. However, Franzoni's model considers the U.S. practice, where plea negotiation seems to proceed on the basis of police reports, thus before a complete prosecutorial investigation has been completed.

Baker and Mezzetti (2001) developed a model characterized by strategic interaction and asymmetric information, as in Reinganum (1988). Differently from Reinganum's model, only defendants have private information, concerning their own actual guilt, while the strength of the case is known to both parties, together with the amount of resources available to the prosecutor, the probability of conviction at trial, and how the gathered evidence affects such probability. The model consists of a four-stage game, with two rounds in which the prosecutor gathers information and two rounds in which they take decisions. First, prosecutors offer a plea deal that all the innocent and some of the guilty defendants will reject; based on the rejection, as in Franzoni (1999), prosecutors form believes about the defendants' actual guilt and decide how many resources to invest in the subsequent investigations. Second, additional information about defendants' actual guilt is gathered through the investigation; then, prosecutors decide whether to go to trial or drop the case. The model yields several implications. First, contrary to Grossman and Katz (1983) and Reinganum (1988), the plea-bargaining process can never perfectly separate guilty and innocent defendants. Second, a credible threat to gather evidence will deter guilty defendants from mimicking the behavior of innocent defendants, i.e. rejecting plea offers. Third, plea offers are more likely to be accepted in the case of more severe crimes, but defendants accept plea offers only if the threat of trial is credible, i.e. if prosecutors have enough resources.

Adelstein and Miceli (2001) developed a first comparative analysis of plea bargaining, considering its social welfare properties in adversarial and inquisitorial jurisdictions. In both types of jurisdictions, criminal procedure pursues three objectives: reducing the costs of adjudication; punishing the guilty; not punishing the innocent. Adelstein and Miceli argue that adversarial criminal procedure is primarily designed to avoid the conviction of innocent defendants and that plea bargaining increases social welfare in adversarial jurisdictions. The reason is that defendants decide between plea bargaining and trial not based on their actual guilt, but on the expected penalty at trial, which is determined both by the severity of the prescribed punishment and by the likelihood of conviction. If innocent defendants face high probabilities of conviction at trial, plea bargaining allow them to obtain a sentence discount. Hence, when available evidence points towards their conviction, innocent defendants, and society at large, are better off when plea bargaining is allowed, because the social welfare loss caused by a milder punishment through plea bargaining is lower than the one caused by a more severe punishment at trial. Adelstein and Miceli also argue that inquisitorial criminal procedure is designed to ensure that guilty defendants obtain the deserved punishment, and that the

principle of mandatory prosecution is preferred over plea bargaining in inquisitorial jurisdictions. The reason is that plea bargaining would allow milder sentences for factually guilty defendants compared to trial. However, the authors note that the objective of reducing adjudication costs has led many inquisitorial jurisdictions to introduce simplified procedures that perform the same function of adversarial plea bargaining. Examples include the Italian plea-bargaining procedure introduced in 1989 and German penal orders.[10] Adelstein and Miceli also note that those procedures are only allowed in the case of less severe crimes. This is coherent with their model, since the preference for mandatory prosecution over plea bargaining increases with crimes severity. Despite some unconvincing simplifications, the analysis by Adelstein and Miceli (2001) highlights how the social welfare properties of plea bargaining crucially depend on societal preferences, which might differ across jurisdictions.

A comparative approach to the social welfare properties of plea bargaining is also adopted by Garoupa and Stephen (2008). The authors argue that previous economic literature was overoptimistic about the benefits of plea bargaining, and that such result derived from considering plea bargaining as a counter part of civil out-of-court settlements. However, contrary to civil settlements, plea bargaining is not simply a two-party contract, but it is embedded in a nexus of agency relationships. In particular, any assessment about the desirability of plea bargaining should take into consideration the agency relationships between prosecutors and society at larger, and between defendants and their lawyers, in addition to third-party effects. The authors additionally argue that the failure of plea-bargaining procedures in inquisitorial jurisdictions, measured by their limited use in practice, depends on the lack of appropriate incentives, which are instead provided by adversarial jurisdictions. Consequently, as in Adelstein and Miceli (2001), jurisdiction-specific factors deserve proper consideration, since they are likely to determine both the desirability of plea bargaining and its success in practice.

Bar-Gill and Gazal-Ayal (2006) finds that limiting the maximum sentence reduction in return for guilty pleas increases the social welfare properties of plea bargaining. As in previous models, cases strength is correlated with defendants' actual guilt, and it determines the probability of conviction at trial. Consequently, factually innocent defendants face weaker cases and lower probabilities of conviction at trial. As a result, prosecutors would need to offer larger sentence discounts in order to convince this category of defendants to accept plea bargaining.

[10] To the best of my knowledge, this is the only instance in which penal orders are discussed in the framework of a Law and Economics theoretical analysis.

However, if excessive sentence discounts are banned by law, innocent defendants will never accept plea-bargaining offers. Since trials are always costlier than plea bargaining, prosecutors will drop those cases instead of going to trial, given the lower probabilities of conviction.[11] This will result in a lower rate of type I errors (conviction of innocent defendants) both through plea bargaining and at trial, thus preventing social welfare losses. However, limits on sentence reduction might be circumvented through charge and fact bargaining. For example, if the sentence discount limit is 20%, prosecutors might offer defendants to drop a more serious charge and to press a different one, which entails a punishment lower by 30%, thus circumventing the ban and inducing factually innocent defendants to plead guilty.[12]

Most recently, Lundgren (2024) shows that plea bargaining always increases the number of wrongful convictions. As in previous models, factually innocent defendants face weaker cases, and prosecutors want to maximize conviction rates under resource constraints. Consequently, prosecutors will prosecute the stronger cases first, and then gradually proceed with weaker cases until they run out of resources. Since plea bargaining allows prosecutors to save resources, they will be able to prosecute more cases compared to a situation in which trial is the only option. Consequently, resources saved through plea bargaining will be used to prosecute factually innocent defendants, i.e. those facing weaker cases. Since risk-averse innocent defendants might accept plea bargaining offers, and since innocent defendants face a positive probability of conviction at trial, plea bargaining increases the number of type I errors. However, Lundgren (2024) points out that this result alone is not enough for advocating for a ban on plea bargaining, since the social welfare benefits of the institute might still outweigh the costs entailed by more type I errors.

1.4. Methodology

Different methodologies are adopted across the present dissertation, varying in accordance with the different research questions that each chapter aims to answer.

However, the so-called Law and Economics "mainstream approach" (Pacces and Visscher, 2011) constitutes the common basis for the analyses throughout the entire dissertation. Therefore, the research questions are approached in accordance with the two following

[11] Additionally, prosecutors will exercise their discretion and do not prosecute those cases in the first place, since they anticipate that they will have to drop them anyway. This will result in additional prosecutorial resources savings.

[12] As in other models, defendants will not decide based on their actual guilt, but on the expected sentence at trial, as determined by both the severity of the charged offence and the probabilities of conviction.

assumptions. First, following methodological individualism, collective phenomena are conceived as the results of individuals' decisions. Consequently, the differing extents of use of administratization procedures across jurisdictions are understood as the result of the decisions of individual relevant actors, such as prosecutors, judges, defendants, and defense lawyers. Second, those individuals' choices are in turn influenced by the system of incentives shaped by both legal and extralegal factors, which impose implicit prices on different behaviors (Ulen, 2000). For example, jurisdictions that allow prosecutor to directly issue penal orders impose a lower price on the use of the procedure, in comparison with jurisdictions that always require previous judicial approval; consequently, lower use of the procedure should be observed in the latter jurisdictions.

Multiple approaches are adopted to answer the first research question, which deals with the process of adoption and the current use of administratization procedures worldwide. A survey was developed in order to gather information about the existence of plea bargaining and penal orders in different jurisdictions, the legal design of the former, and other features of the criminal justice system possibly related to the use of administratization procedures.[13] The survey was then circulated among legal experts in nearly 100 jurisdictions, gathering relevant information for 77 of them.[14] For other 99 jurisdictions, and regarding the legal design of penal orders, a legal comparative approach was adopted, by locating and consulting relevant laws, repositories of jurisprudence, and academic publications. In addition, an historic approach was also adopted, in order to identify the date of first regulation of plea bargaining and penal orders in the jurisdictions analyzed. Finally, data gathering was completed by locating relevant data sources for describing the actual use in practice of administratization procedures.

Besides the first research question, all the others were answered through econometric analyses. Cross-country regressions were used in order to understand why certain jurisdictions adopted administratization procedures while others did not. The same approach was followed to identify relevant factors associated with different levels of use of administratization mechanisms across jurisdictions. Because of limited data availability and the lack of appropriate settings for inferring causality, these results can only be interpreted as exploratory ones that can set the direction for future research (Engels, 2021), by narrowing down the set of plausible theories (Spamann, 2015). Causal inference is instead pursued in the case-study setting, which considers

[13] The text of the survey is reported in Chapter 2, Appendix C.
[14] See Chapter 2 for the criteria in choosing the experts, and the list of jurisdictions for which survey answers were gathered.

the reasons for the limited and declining use of both plea bargaining and penal orders in Italy. Instrumental variable analysis constituted the most suitable empirical approach in this regard. This approach requires finding a variable, called instrument, which is directly related to the explanatory variable (relevance condition), but at the same time not related to the outcome variable (exclusion restriction), unless because of its influence on the explanatory variable itself (Woolridge, 2018). In the present dissertation, this equates to finding a variable directly related to a certain legal or extralegal factor, deemed relevant in explaining the use of administratization procedures in practice, but not directly related to the use itself.

1.5. Relevance

The scientific relevance of the present dissertation lies in its potential contribution to several strands of literature. First, it provides the most adjourned and complete description about the current adoption, legal design, and use of administratization procedures worldwide. In particular, comparative research about penal orders was extremely scarce until now (Thaman, 2012; Langer, 2021). Comparative research about plea bargaining was instead richer but mainly limited to a handful of jurisdictions (Ma, 2002; Langer, 2004; Turner, 2006, 2016; Hodgson, 2015). More recent publications considered a greater number of jurisdictions and started to report empirical data about the use of plea bargaining in practice (Fair Trials, 2017; Langer, 2021), but their coverage is still limited in comparison to this dissertation.

Second, by showing the prevalence of administratization procedures in practice, this dissertation provides further evidence about the declining use of ordinary trials in criminal proceedings worldwide (Russell and Hollander, 2017; Langer, 2021). In doing so, this thesis also adds to the literature about the increasing role of prosecutors as *de facto* adjudicators (Luna and Wade, 2012). Indeed, the literature on plea bargaining has described how the use of such procedure has empowered prosecutors in individual jurisdictions, to the point that they decide who gets convicted and for what crimes more than judges.[15] A similar outcome is even more apparent in the case of penal orders, since some jurisdictions allow prosecutors to directly issue them, effectively imposing criminal convictions, without any prior judicial control.[16] Consequently, by documenting the widespread use of plea bargaining and penal orders

[15] E.g., for the U.S. see Alschuler (1968), Lynch (1998), Barkow (2006), Langer (2006); for France see Desprez (2007), Perrocheau (2010), Soubise (2018).

[16] The literature in this regard is more limited, reflecting the minor attention that penal orders have attracted so far in comparison to plea bargaining. With reference to the Netherlands, Brants (2018) describes the quasi-judicial role assumed by prosecutors in the imposition of criminal convictions through penal orders. Chapter 2 will explore in greater detail the nearly exclusive role played by prosecutors in issuing penal orders in several jurisdictions.

worldwide, this dissertation provides empirical support to the thesis that describes the empowerment of prosecutors as a global trend (Jehle and Wade, 2006; Luna and Wade, 2010, 2012; Langer and Sklansky, 2017).

Third, this dissertation adds to the literature on the role of legal tradition. On the one hand, by describing the growing adoption of administratization procedures across continents and legal traditions, it provides support to the thesis that forecasts a potential convergence of legal systems through a common strive for efficiency (McEwan, 2011; Weigand, 2011; Ringnalda, 2014). On the other hand, it shows how the adoption of plea bargaining and penal orders, their legal design, and the extent of their use in practice, are still deeply influenced by legal traditions (Langer, 2004), sometimes in contrast with the prevalent opinion that links the inquisitorial tradition with a limited success of plea bargaining in practice (Garoupa and Stephen, 2008; Langer, 2021).

Fourth, this dissertation contributes to the empirical legal literature on administratization procedures in several ways. First, it contains the first cross-country empirical analysis on the drivers of introduction and use of plea-bargaining procedures. Second, by considering Italy as a case study, it expands the empirical knowledge about the drivers of use of plea bargaining to jurisdictions of inquisitorial tradition, while quantitative research was so far nearly exclusively focused on the U.S. (Langer, 2021). Third, with reference to the Italian context, it provides empirical evidence about the significant role played by defense lawyers in influencing the use of administratization procedures (Bibas, 2004; Stephen et al., 2008), in contrast with the economic models of plea bargaining that treat it as a two-parties contract between defendants and prosecutors (Landes, 1971; Adelstein, 1978; Grossman and Katz, 1983; Reinganum, 1988). Fourth, this dissertation includes the first empirical quantitative analysis about the determinants of use of penal orders.

Coming to its societal relevance, this dissertation provides possible insights for legal reformers. On the one hand, it shows the relevance of certain factors in promoting or hindering the use of administratization procedures, thus potentially guiding legal design choices. On the other hand, it highlights the relevance of factors that can be manipulated only marginally, or not at all, by legal reformers, such as the "forms of interpretation and meaning" (Langer, 2004, p.10) shaped by legal tradition that guide the choices of legal actors regardless of the legal design of administratization procedures. In this regard, the present dissertation might help reformers in establishing realistic objectives when anticipating the extent of use in practice of administratization procedures.

Finally, by showing the prevalence of administratization procedures in several jurisdictions, this dissertation might prompt debates about the adequacy of traditional guarantees in protecting individuals' rights in criminal proceedings. Plea agreements can only be reached before the opening of trial, and earlier agreements are often rewarded with more generous sentence discounts (Brook et al., 2016); in turn, penal orders are issued only during the investigations. Consequently, a greater use of administratization methods shifts the focus of criminal proceedings from trial to the pretrial stage. This side effect might bear minor consequences for inquisitorial systems, since they already treat the official investigation as the focus of criminal procedure (Hodgson, 2015) while trials are little more than an audit of previous activities (McEwan, 2011). Conversely, adversarial systems place their focus on trials, where the results of two independent investigations are challenged through cross-examination (Brants and Fields, 2016). As a result, most of the guarantees in adversarial systems are designed in function of the courtroom debate, with minor attention traditionally placed on ensuring fair results already during the investigations. For example, illegally gathered evidence cannot be used at trial, but no rule can effectively prevent them from being used during plea bargaining, especially against unrepresented defendants. Guarantees designed for a system of trials are then inadequate in a system of pleas. Consequently, plea bargaining does not really take place in the shadow of trial (Bibas, 2004), since trials themselves are a rare occurrence, and not a realistic option in most cases.

1.6. Limitations

The first limitation of the present dissertation concerns its scope. By focusing on administratization methods, it only considers how criminal convictions are imposed without trial. However, it does not consider how also dismissals, either conditional or unconditional, can be reached without trial, nor the use of simplified trials. In doing so, the thesis describes only one part, although significant, of the overall functioning of contemporary criminal justice systems.

A second limitation concerns the goal of the study, which remains agnostic regarding the desirability of administratization methods. Discussions around the merits of plea bargaining abound both in the legal and in the Law and Economics literature (Lundberg, 2024), while the debate on penal orders is more limited and focused on individual jurisdictions (Nicolucci, 2008; Brants, 2018; Leisser and Kager, 2021). The results of the various chapters might contribute to

the debate about the desirability of both procedures, but this dissertation *per se* does not adopt a normative perspective.

Third, because of data availability issues, this thesis does not report on the actual use of administratization procedures for all jurisdictions considered. Limited data availability in turn results in two different limitations affecting the cross-country empirical analysis reported in Chapter 3. As a fourth limitation, data availability issues forced the adoption of a simple design in the cross-country analysis. Consequently, the results cannot support any causal claim about the drivers of use of plea bargaining in the cross-country setting. As a fifth limitation, the cross-country empirical analysis only considers plea bargaining and not also penal orders. The reason is thar data about the adoption and use of penal orders are not available for a sufficient number of jurisdictions.

Finally, the case study about the use of administratization procedures in individual jurisdictions is limited to Italy. It is then possible that other jurisdiction-specific factors exist, but they are not considered in this dissertation.

1.7. Content structure

This thesis consists of 6 chapters in total. Chapter 2 provides a comprehensive description of the current adoption and legal design of administratization procedures worldwide. It also describes the incremental adoption of those procedures over the last 100 years, documenting the major role initially played by penal orders and the later dominant role played by plea bargaining. It also discusses what factors promoted the adoption of one or the other administratization method, such as the influence of inquisitorial and adversarial models, the prestige of individual legal systems, and a widespread strive towards greater efficiency in adjudication. Chapter 2 also provides information about the extent of use in practice of administratization procedures in several jurisdictions in recent years.

Chapter 3 identifies factors potentially influencing the adoption and use of plea bargaining worldwide. The robust results of cross-country regressions show that the choice of regulating plea bargaining significantly correlates with legal origins, the influence of Shariah, and democracy levels. Conversely, material resources, crime rates, and the prior existence of jury trials and penal orders are not significant factors. Additional cross-country analysis shows that the use of plea bargaining in practice significantly correlates with the level of material resources, legal traditions, the use of jury trials, and different models of regulation of the

procedure. Because of limited data availability, and in order to avoid the potential confounder effect of Covid-19, the latter results are referred to the use of plea bargaining in 2019.

Chapter 4 and 5 explore the role of some factors in driving the use in practice of both plea bargaining and penal orders in Italy. Chapter 4 considers a jurisdiction-specific factor, namely the peculiar regulation of the Italian criminal statute of limitations. According to such regulation, defendants must be acquitted, regardless of the evidence collected against them, if trials last longer than a certain time threshold. Consequently, the chances of acquittal increase with trial duration. As a result, defendants might prefer longer trials to quick disposal of their case through plea bargaining and penal orders. One should then observe a lower use of administratization procedures in judicial districts characterized by average longer trial duration. This is confirmed by instrumental variable analyses on a panel of 140 first-instance judicial districts over the period 2005-2021.

Chapter 5 is the second one that considers Italy as a case study. However, contrary to Chapter 4, it does not consider a unique feature of the Italian criminal justice system, but the role of defense lawyers' incentives. The economic models of plea bargaining typically treat the procedure as a two-party contract, thus abstracting from the agency relationship between defendants and their lawyers. More recent literature has criticized this approach, by highlighting the role of lawyers' private interests in shaping the outcome of plea negotiations. The same reasoning can be extended to the other administratization procedure, penal orders. I argue that lawyers might advise against the use of plea bargaining and penal orders, since ordinary trials result in higher financial returns for them. This behavior should be more common when lawyers face increased market competition, proxied by a higher number of lawyers per inhabitants. Causality is inferred through instrumental variable analysis on a panel of 140 first-instance judicial districts during the period 2008-2021. The results support the theoretical claim, since judicial districts characterized by a higher number of lawyers display a lower use of both plea bargaining and penal orders.

Chapter 6 concludes the dissertation, by discussing some implications of the results presented in previous chapters. In addition, it indicates possible directions for future research.

Chapter 2 The global administratization of criminal convictions: History, legal design, and use of plea bargaining and penal orders

2.1. Introduction

The present chapter documents the current adoption and use of plea bargaining and penal orders worldwide. The relevant data come from two categories of sources. First, a survey instrument was circulated among legal experts worldwide to gather information on whether plea-bargaining and penal orders procedures were formalized in a given jurisdiction in 2022.[17] The survey additionally gathered information about the legal design of plea-bargaining procedures, and other features of criminal justice systems at large. Survey answers were collected for 77 jurisdictions and later verified, in order to ensure that the questions were properly understood and the whole questionnaire was completed.[18] Second, for other 97 jurisdictions I conducted personal research, by consulting legislative acts, repositories of jurisprudence, and academic publications. Firsthand research constituted the primary source of information regarding the legal design of penal order procedures, also for jurisdictions included in the survey on plea bargaining. In total, I have collected data about the legal status of penal orders and plea bargaining in 174 jurisdictions, listed in Appendix A.1. Additionally, for 60 of those jurisdictions I personally collected information regarding the use in practice of both penal orders and plea bargaining. The name of penal orders and plea-bargaining procedures, their English translation, the year and legal act of first regulation, and the sources of data about their use in practice are listed in Appendix A.3. The resulting dataset constitutes the most comprehensive one to date regarding the current adoption, legal design, and use of administratization procedures.

[17] The text of the survey is included in Appendix C. The national experts were selected among authors of academic papers describing plea-bargaining procedures in different jurisdictions, and among the experts that provided information to two related papers describing the diffusion of plea bargaining worldwide, namely Fair Trials (2017) and Langer (2021). When it was not possible to retrieve information through this category of experts, the survey was directed to lawyers and law firms among those indicated by the following sources: "HG.org Leading Lawyers", a platform established in 1995 by the Lex Mundi project, the same network used by Djankov et al. (2003) to create a cross-country index of procedural formalism (see https://www.hg.org/aboutus.html); the "Find a Lawyer Abroad" online platform, established by the Foreign, Commonwealth & Development Office (FCDO) of the UK Government, which provides lists of English-speaking lawyers in different legal areas of expertise, including criminal law, in a number of jurisdictions (see https://find-a-professional-service-abroad.service.csd.fcdo.gov.uk/find/lawyers).

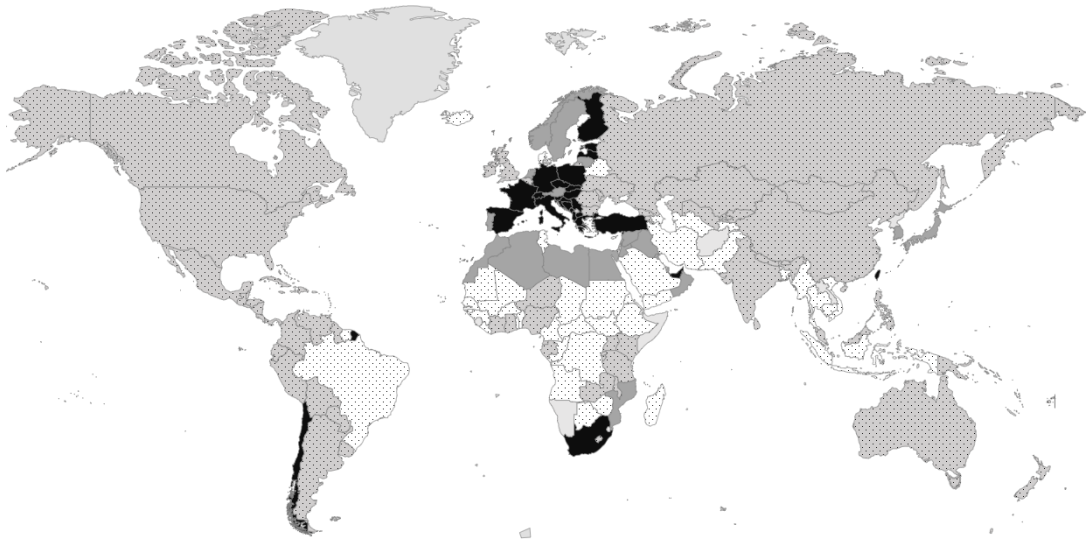
[18] The jurisdictions for which survey answer were collected are lister in Appendix A.2.

The chapter is structured as follows. Section 1.2. describes the current adoption of administratization mechanisms worldwide, and it discusses historical trends in their diffusion. Section 1.3. focuses on penal orders, by describing the historical roots of this kind of procedure, how it spread worldwide, and how its regulation varies across jurisdictions. Section 1.4. covers the same topics with reference to plea bargaining. Section 1.5. reports data about the use of both plea bargaining and penal orders in practice, by showing their global prevalence as ways of imposing criminal convictions in contemporary criminal procedure.

2.2. Current adoption of plea bargaining and penal orders worldwide

Figure 1.1. documents the worldwide adoption of administratization mechanisms in 2024. Among the 174 jurisdictions included in the analysis, 125 allow for at least one administratization method in 2024, representing 72% of the sample. Among them, 27 adopted both plea bargaining and penal orders procedures, 24 only penal orders, and 74 only plea bargaining. Consequently, plea bargaining appears to be the most widespread method of administratization of criminal convictions, being formalized in a total of 101 jurisdictions, while penal orders are regulated in a total of 51 jurisdictions.

Figure 1.1. Jurisdictions with administratization methods in 2024



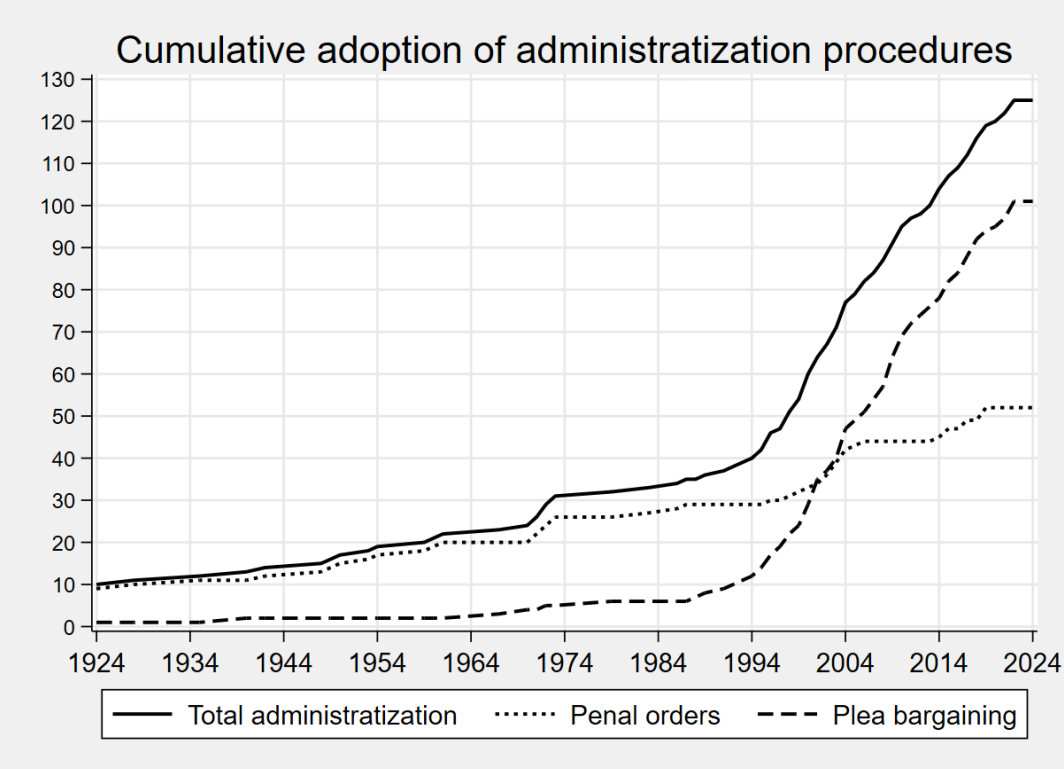
Note: Black - jurisdictions with both plea bargaining and penal orders; solid grey - jurisdictions with only penal orders; dotted grey - jurisdictions with only plea bargaining; dotted white – jurisdictions without any administratization method.

The figure thus confirms the status of plea bargaining as one of the most transplanted institutes of criminal procedure (Garoupa and Stephen, 2008) and its prevalence in contemporary systems of criminal procedure (Fair Trials, 2017). At the same time, it shows how penal orders also

constitute a widespread administratization method, despite the little attention received in the comparative and Law and Economics literature to date (Langer, 2021).

Jurisdictions adopting both plea bargaining and penal orders are mostly concentrated in Europe, with the exception of Chile, South Africa, and Taiwan. This in part reflects the limited geographical distribution of penal order procedures, which are mostly adopted by European jurisdictions and in the Arab world. Conversely, plea bargaining has spread across all continents, representing the sole administratization procedure in Northern and Central America and in Oceania. Overall, Europe display the greatest degree of adoption of administratization procedures, while Africa is only marginally interested by the phenomenon, especially when considering the Sub-Saharan region. Figure 1.2. shows instead the overall dynamics in the adoption of administratization procedures over the last 100 years, distinguishing between the spread of penal orders and that of plea bargaining.

Figure 1.2. Cumulative adoption of penal orders and plea bargaining, 1924-2024



First, it can be noted how the overall adoption of administratization procedures accelerated over the last 30 years, reflecting the "triumphal march" of alternative criminal procedures (Thaman, 2007) and the consequent phenomenon of "disappearing trials" (Kritzker, 2004; Russell and Hollander, 2017) described in the literature. In particular, the number of jurisdictions allowing for at least one administratization procedure grew from 40 in 1994 to 125 in 2024,

corresponding to an increase of more than 200%. However, the dominant administratization mechanism has changed over time.

Initially, penal orders almost constituted the sole administratization method worldwide. By 1924 penal orders were already part of the criminal procedure systems of 9 jurisdictions, and they remained the dominant administratization method until the late 1990s. The spread of penal orders followed a path of constant but slower growth that continued up to our days. However, the extent of such diffusion has been overshadowed since the 1990s by the rampant growth in the formalization of plea-bargaining procedures.

It is possible to provide reasons for both the initial prevalence of penal orders as administratization methods and their subsequent marginalization in favor of plea bargaining. The initial success of penal orders can be linked to the hegemonic status that German legal doctrine enjoyed between the second half of the 19th century and World War I (Kennedy, 2006). The reason is that penal orders originated as a peculiar element of the German model of criminal procedure and their initial spread followed the diffusion of German legal doctrine, as it will be described more in detail in the next section. The subsequent limited success of the procedure is explained by the decreasing global influence of German legal thought, but also by the intrinsic relation between penal orders and inquisitorial criminal procedures. As described in Chapter 1, convictions imposed through penal orders are based exclusively on the results of a unilateral investigation, carried out by a state official, and contained in a written investigation dossier, whose content is potentially unknown to defendants before being notified of the penal order (Nicolucci, 2008). Since inquisitorial trials themselves are sometimes a mere review of the evidence unilaterally gathered by state officials during the investigations (Hodgson, 2006; McEwan, 2011), penal orders constitute a natural resource-saving alternative. Furthermore, the results of official investigations are considered a legitimate basis for a criminal conviction, both in inquisitorial trials and through penal orders, because of the quasi-judicial role of prosecutors. Indeed, in most jurisdictions of inquisitorial tradition, prosecutors and judges share the same career path and professional ethics, they are both part of the judiciary, although with different functions, and enjoy the same guarantees (Brants, 2018). Within the inquisitorial tradition, the prosecutorial investigation is then regarded as a completed and impartial one, directed at discovering the objective truth, and not at building a case against the defendant (Grande, 2016). Clearly, all those features sustain the legitimacy of penal orders convictions in inquisitorial

jurisdictions, but they are at odds with adversarial conceptions of criminal procedure.[19] Consequently, penal orders are intrinsically limited in their potential as legal transplants. Additionally, adversarial ideals have been expanding to jurisdictions of inquisitorial tradition over the last 30 years, while the inquisitorial model is on the retreat (Langer, 2014). In fact, even jurisdictions of inquisitorial tradition sometimes opt for the regulation of plea-bargaining procedures, instead of penal orders, when introducing administratization methods.[20]

The adoption of plea bargaining in new jurisdiction accounts for the explosion in the diffusion of administratization methods that has characterized the last three decades. As for penal orders, it is possible to explain the reasons for both the later timing and the greater extent of the diffusion of plea bargaining. Regarding the timing, it is worth noting that plea bargaining was not formalized in the U.S. until 1970,[21] although this kind of procedure is typically associated with U.S.-style criminal justice (Grevi, 1985; Langer, 2004). Consequently, any transplant based on the U.S. model was virtually impossible until the 1970s, since plea bargaining constituted a non-regulated practice, whose constitutional legitimacy was still in doubt. Even after that date, plea bargaining encountered may critics (Schulhofer, 1984) and it was regarded with suspect even in other common law jurisdictions, where similar practices existed in a concealed form (Thomas, 1978; Baldwin and McConville, 1979). As the expansion of penal orders was limited by its intrinsic connection with the inquisitorial model, the success of plea bargaining is partly explained by its association with the adversarial model. Plea bargaining is regarded as a typically adversarial procedural mechanism since it let the parties decide about the case's outcome, in front of a judge who acts as passive umpire (Langer, 2014). In fact, in 1988 Italy was the first non-common law jurisdiction to regulate plea bargaining as part of a broader reform directed at establishing an adversarial system of criminal procedure (Grande, 2000; Pizzi and Montagna, 2004; Illuminati, 2005). In the following years, most Latin American jurisdictions also introduced plea bargaining as part of a wave of adversarial reforms of criminal procedures (Langer, 2007). Starting from the late 1990s the same adversarial turn took place in

[19] In the adversarial tradition the prosecutor is regarded as a party opposing the defendant and building a case against them, without any duty to search for both inculpating and exculpating evidence. For the differing roles of prosecutors in the adversarial and the inquisitorial model, and the consequent differences in the nature of investigations and procedure, see Ringnalda (2014) and Grande (2016).

[20] Conversely, the only jurisdiction of adversarial tradition to regulate penal orders is South Africa, which in 1955 introduced a procedure today known as "Admission of guilt fine". Other jurisdictions of adversarial tradition regulate similar procedures, which however cannot be qualified as penal orders, since they only enable the imposition of administrative fines, and not of criminal convictions (Langer, 2021). Examples of those procedures are the Penalty Notices for Disorder (FPNs) introduced in England and Wales in 1988 to deal with traffic offences and later extended to antisocial behavior (McEwan, 2011) and Fiscal Fines, introduced in Scotland in 1987 (Leverick, 2006).

[21] Brady v. United States: 397 U.S. 742 (1970)

Central and Eastern Europe, as part of democratization processes following the end of Socialist regimes. Also in this case, most jurisdictions introduced plea bargaining, as an allegedly essential element of any adversarial system of criminal procedure. While the initial diffusion of penal orders was partly explained by the hegemonic status of German legal doctrine, the success of plea bargaining is intrinsically linked to the global influence of U.S. legal models after World War II and especially after the end of the Cold War (Amodio and Bassiouni, 1988; Mattei, 2003; Kennedy, 2006).

During the most recent years the formalization of plea bargaining in both jurisdictions of inquisitorial and adversarial tradition has resulted in a sort of convergence of legal systems based on efficiency grounds (McEwan, 2011). To some extent overarching efficiency objectives seem to have overshadowed the role of legal tradition in determining the content of procedural reforms (Brants, 2018). Indeed, the most recent codes of criminal procedures tend to introduce at the same time penal orders and plea bargaining, to maximize the potential efficiency of the new system.[22]

However, legal tradition still plays a decisive role in shaping the approach of different jurisdictions to the administratization of criminal convictions. For example, penal orders are still unknown to common law jurisdictions,[23] while plea bargaining is generally not allowed in Arab jurisdictions.[24] In turn, plea bargaining is regulated in different ways between jurisdictions of adversarial and inquisitorial traditions, as it will be explained in Section 2.4.2.

This section documented the current adoption of administratization methods in contemporary criminal procedure. It also discussed the different timing and degree of diffusion of plea bargaining and penal orders over the last 100 years. In particular, it showed how plea bargaining is responsible for the rampant diffusion of administratization methods over the last 30 years, while penal orders played a major role until the 1990s. The next section will explore in more detail the origins, diffusion, and legal design of penal orders.

[22] E.g. Kazakhstan in 2014, Albania in 2017, Greece and Turkey in 2019.
[23] With the above-mentioned exception of South Africa. However, South Africa is not a pure common law jurisdiction, as it will be discussed more in detail in Section 2.3.
[24] As it will be discussed in greater detail in Chapter 3, Sharia principles do not promote negotiated criminal convictions, but they are not incompatible with the imposition of lighter punishments in simplified forms, as in penal orders. However, the most recent adoption of plea bargaining took place precisely in the United Arab Emirates. Section 2.4. will describe the peculiarities of such procedure, which still shows the influence of Sharia principles.

2.3. Penal orders

2.3.1. Origins and diffusion

The first regulation of penal orders dates back to the Prussian procedural law of 1846, with the name of *Mandatsverfahren* (Thaman, 2012).[25] In 1877 the procedure was incorporated in the Code of Criminal Procedure of the German Empire, with the different name of *Strafbefehlsverfahren*, which is the current denomination of penal orders in Germany. Penal orders based on the German model spread to other German-speaking jurisdictions already in the 19th century. In 1868, the Swiss Canton Aargau was the first jurisdiction to adopt penal orders outside Germany (Thommen, 2013), while Austria did so in 1873 (Leisser and Kager, 2021).[26] Interestingly, the third jurisdiction to adopt penal orders was Japan in 1885. After the Meji Restoration in 1868, Japan started to modernize its legal system, based on Western models (Oda, 2021). The hegemonic status of German legal doctrine in those years lead Japanese reformers to follow the German model also in criminal procedures, thus introducing penal orders. Penal orders were then applied on the Korean and Chinese territory under Japanese rule and subsequently incorporated in the criminal procedural law of South Korea and Taiwan after independence (Chisholm, 2014; Su, 2017).[27] The early expansion of penal orders continued with Norway in 1890 (Svedrup, 2022) and Hungary in 1896 (Bárd, 2007).

At the beginning of the 20th century penal orders expanded beyond the Germanic and Scandinavian legal families. Italy was the first jurisdiction of French legal tradition to adopt penal orders in 1909, initially with exclusive applicability to the territories of Messina and Reggio Calabria, as part of the emergency legislation related to the earthquake of 1908.[28] During the 1920s the applicability was extended to the entire Italian territory with regard to specific crimes, such as road traffic and labor law violations, and finally extended to all misdemeanors by the 1930 Code of criminal procedure (Nicolucci, 2008). The expansion of

[25] The *Mandatsverfahren* procedure had a precedent in the Prussian emergency legislation related to the Polish uprising of 1830 and 1831, as a method for quickly disposing of minor criminal. Even after its inclusion in the Prussian criminal law of 1846, the applicability of the procedure was initially limited to the police courts of Berlin, being extended to the entire Prussian territory only in 1849 (Thaman, 2012).

[26] In Austria the penal order procedure retains the Prussian denomination of *Mandatsverfahren*. However, the history of *Mandatsverfahren* in Austria is not a continuous one. The institute was repealed in 1999 and later reintroduced, not without controversies, in 2014. See Lasser and Kager (2021).

[27] Besides Japan, South Korea, and Taiwan, the only other jurisdiction that regulates penal orders in East Asia is Macao. However, the adoption of penal orders in Macao only took place in 1996, not being based on the German model, but on the Portuguese *processo sumaríssimo*.

[28] Shortly before that, penal orders were already included in the 1908 Code of criminal procedure for the Italian colony of Eritrea.

penal orders in the French legal family continued with San Marino in 1919 and Luxembourg in 1924 (Fritz et al., 2022).[29]

After World War II and until the 1970s Arab-speaking countries represented the main area of diffusion of penal orders, starting with Lebanon in 1948 and continuing with Syria and Egypt in 1950. In 1955 a penal order procedure was also introduced in South Africa, with the name of "Payment of fine without appearance in court". The South African procedure still constitutes the first and only example of penal orders in a common law jurisdiction of adversarial tradition.[30] The exceptionality of the South African case is tempered when considering that South Africa is sometimes classified a jurisdiction of mixed legal origins (Klerman et al., 2011), because of the significant historic influence of Dutch law.[31]

At the beginning of the 1970s a new phase of expansion of penal orders begins in Europe. In 1972 France introduces the *ordonnance pénale*, to simplify the disposition of criminal cases, while in 1973 penal orders are introduced in Czechoslovakia, during a phase of reemergence of pre-Socialist national legal traditions in Central and Easter Europe (Ajani, 1995).[32] At the end of the 1980s penal orders also expand to the Iberian Peninsula, with Portugal in 1987 and Andorra in 1989.

Between the late 1990s and the early 2000s the fall of Socialism provided new chances for the further diffusion of penal orders in Europe. The new countries originated from the dissolution of the Soviet Union and Yugoslavia started to adopt administratization procedures in their codes of criminal procedure. Some of these jurisdictions first introduced penal orders, as administratization method closer to their inquisitorial background, and later also adopted plea bargaining, in a further strive towards efficiency and the adoption of adversarial features.[33] In

[29] The other jurisdictions to adopt penal orders in the first half of the 20th century were Poland in 1928 and Sweden in 1942 (Langer, 2021).
[30] Similar procedures directed at imposing fines in other adversarial jurisdictions, such as Penalty Notices for Disorder (FPNs) in England and Wales and Fiscal Fines in Scotland, cannot be qualified as penal order procedures, since they do not result in the imposition of criminal convictions (Langer, 2021).
[31] Penal orders were not properly introduced in the Netherlands until 2006, with the name of *strafbeschikking*. Nevertheless, the South African procedure might have been modeled after Dutch *transactie*, regulated in the Netherlands since 1926 (Brants, 2018). Through *transactie* prosecutors can impose administrative fee, or other conditions, to deal with crimes punished with up to 6-year imprisonment. However, unlike the "Payment of fine without appearance in court" procedure and *strafbeschikking*, *transactie* does not constitute a proper penal order procedure since it does not enable the imposition of actual criminal convictions.
[32] Penal orders were part of the law applicable in Czechoslovakia under the Austro-Hungarian Empire.
[33] This was the case of Croatia in 1998, Serbia in 2001, Montenegro and Slovenia in 2003, North Macedonia in 2004.

other jurisdictions the quest for efficiency prevailed over legal tradition, with the simultaneous adoption of both penal orders and plea bargaining[34]

The latter approach initiated the convergence trend motivated by efficiency concerns discussed at the end of Section 2.2. (McEwan, 2011; Brants, 2018). During the 2010s the further expansion of penal orders was partly driven by such approach, with the simultaneous introduction of plea bargaining and penal orders in Kazakhstan in 2014, Albania in 2017, and Greece and Turkey in 2019.

Most recently, the 2019 Code of criminal procedure of Mozambique featured the first expansion of penal orders in Subsaharian Africa in more than fifty years, and one of the few examples of administratization mechanism in the region. The future will show whether the expansion will continue towards other territories traditionally impervious to the diffusion of penal orders, such as common law jurisdictions and the Americas.

2.3.2. Legal design

Through penal orders, criminal convictions are imposed on defendants already during the investigation phase. The convictions are based on the written results of the official investigation, as contained in the investigation dossier, and they become final with the defendants' consent. However, jurisdictions follow two alternative models in establishing whether the consent requirement is satisfied.

According to the first model, which can be called "opposition model", penal orders become final unless defendants oppose them and ask for trial within a limited time. The opposition model treats the defendants' inertia as implicit acceptance of the penal orders' contents, and it is followed by most jurisdictions. According to the second model, which can be called "consent model", defendants need to explicitly accept penal orders, otherwise their case will be disposed by other means. The specific modalities and time assigned for opposing or accepting penal orders varies between jurisdictions across both models.

In the opposition model, the time for opposing is usually 15 days, with the longest time being accorded in Austria (4 weeks), Algeria (1 month), France (45 days), and Finland (60 days).[35]

[34] This was the case of Bosnia and Herzegovina and Estonia in 2003, and Latvia in 2004. Outside of Europe, this approach was adopted by Chile in 2000, which still constitute the only American country with a penal order procedure.

[35] The term of 60 days is referred to the penal order procedure called *Rangaistusmääräyksellä*, in which penal orders can be only issued by prosecutors for more serious misdemeanors. For the simplified penal order procedures called penalty payment order (*Rikesakkomääräyksellä*) and fine order (*Sakkomääräyksellä*), which can be also imposed by police officers, the term for opposing is set at 30 days. See Section 35 of Act 754/2010.

The time for opposing is generally very short in Arab-speaking jurisdictions, ranging from just 3 days in Libya and Qatar to 10 days in Egypt and Morocco. Regarding the modalities, some jurisdictions belonging to the opposition model still require the suspect's explicit consent to the use of the penal order procedure, before an actual penal order can be issued.[36]

In the consent model, the main legal design variation pertains how the consent itself is elicited. In some jurisdictions, such as Norway, Sweden, Latvia, and Macao, defendants are required to communicate their consent to the issuing authority within a limited time since the issuance of the penal order. The extent of such time is either fixed by law, as in Latvia (5 days) and Macao (15 days) or set by the authority when issuing the penal order, as in Norway and Sweden.[37] In other jurisdictions, such as Bosnia and Herzegovina, Montenegro, Serbia, Mozambique, and Spain, the defendant's consent is instead elicited by a judge during a special hearing, which is scheduled within short time since the issuance of the penal order.[38] Serbia partly retrieves the implicit consent notion typical of the opposition model, by prescribing that the penal order becomes a final conviction if the duly summoned defendant fails to appear at the hearing.

The Netherlands normally follow the opposition model, but they adopt a mix between the consent and the opposition models when penal orders are used to impose more severe fines. In particular, a payment of more than 2.000 euros, either as a fine or as a fine combined with compensation measures, can only be imposed after hearing the suspect, assisted by counsel.[39] A penal order imposed in this way can still be opposed by the defendant within 14 days, according to the general rule.

Across both models, the legal design of penal orders can additionally vary in relation to the following four aspects: the applicability of the procedure; the issuing authority; the benefits granted to defendants; the applicable sentences.

Regarding applicability, the use of penal orders is always limited to less serious crimes. Applicability is usually defined by the most severe sentence prescribed by law for the crime, or

[36] This is the case in Finland, Austria, and Japan. In these jurisdictions, the authorities endowed with the power of initiative first elicit the suspect's consent to the use of the penal order procedure. Once the consent is acquired, they can issue the actual penal order. Once the penal order has been notified, the defendant can still oppose it within the time set by law, otherwise the conviction becomes final The defendant's prior consent concerns the use of the simplified procedure, not an actual penal order, since it has not been issued yet and its content is not known. For this reason, the defendant can still oppose the actual penal order, once issued and notified. Consequently, procedures of this kind belong to the opposition model.

[37] In Norway this time period can be set between 3 and 10 days (see Section 20-2, paragraph 5 of *Påtaleinstruksen*, royal decree 28 June 1985).

[38] Within 8 days in Bosnia and Herzegovina and 15 days in Serbia and Mozambique.

[39] See Code of criminal procedure, art. 257c, comma 2.

by the sentence considered appropriate by the issuing authority in the specific case.[40] For example, in the Netherlands penal orders are applicable to all crimes punished with up to 6-year imprisonment, while in Italy to all cases in which the prosecutor deems a fine the appropriate sentence. In a few jurisdictions the applicability of penal orders is instead limited to specific categories of crimes. For example, in Lebanon, Syria, and Jordan, penal orders can only be used for violations of municipal, health and traffic regulations. Many jurisdictions further qualify the applicability of penal orders, usually requiring the existence of evidence so clear and strong that a trial is deemed unnecessary. For example, in Germany prosecutors may use penal orders if they do "not consider a main hearing to be necessary given the outcome of the investigations" (section 407 Code of criminal procedure), while in Czech Republic single judges may issue penal orders "if the factual situation is reliably proven by the provided evidence" (section 314e Code of criminal procedure).[41] In some jurisdictions the use of penal orders is instead excluded for juvenile defendants (Algeria and Estonia), repeat offenders (France), or if the victim has presented a civil claim (Algeria, Luxembourg, Morocco).

Regarding the issuing authority, in most jurisdictions the initiative is assigned to prosecutors, but judges actually issue the penal order, after verifying that the conditions set by law hold in the specific case.[42] In Hungary and Taiwan judges can issue penal orders either upon prosecutorial request of *proprio motu*, while some jurisdictions vest judges with exclusive initiative powers.[43] At the other end of the spectrum, few jurisdictions allow prosecutors to directly issue penal orders without any previous judicial control. Such model is dominant in Scandinavia (Finland, Norway, Sweden) but it is also adopted by Latvia, the Netherlands, South Africa, and Switzerland.[44] Prosecutors can directly issue penal orders without previous judicial control also in many Arab jurisdictions, but generally only for fines below a certain threshold.[45] The Scandinavian countries, together with the Netherlands and South Africa, even allow police officers to issue penal orders without prior judicial or prosecutorial control in the case of petty fines, traffic roads offences, or the violation of specific laws.

[40] In Iraq and Egypt, the use of penal orders is even mandatory for crimes punished below certain thresholds, respectively 3-year imprisonment and fines below 1000 Egyptian pounds.
[41] Similar formulations exist in Algeria, Greece, Poland, Slovakia, and Switzerland.
[42] Issuance by a judge upon prosecutorial request constitutes the original German model (Langer, 2021).
[43] Those jurisdictions are Andorra, Czech Republic, Iraq, Jordan, Lebanon, Morocco, Poland, San Marino, Slovakia, Syria, and Turkey.
[44] The jurisdictions following this model display some of the highest penal orders rates in the world, as it will be discussed in more detail in Section 2.4.
[45] This is the case in Egypt, Libya, and Qatar, and in Oman if no civil claim has been presented.

Coming to the applicable sentences, legal design variations are much more limited. In nearly all jurisdictions penal orders can only impose fines, in addition to ancillary measures. Among those measures the most common ones are suspension of driving license, confiscation of objects, and banning from certain activities for a limited time. Some jurisdictions also limit the maximum amount of the fine,[46] while others include community service and social work among the applicable sentences.[47] In other jurisdictions penal orders can be used to impose suspended sentences and probation,[48] while few jurisdictions even allow the imposition of actual custodial sentences. Among those, Czech Republic allows house arrest for a maximum of 1 year, and only after hearing the opinion of the defendant prior to the issuance of the penal order, while Jordan allows imprisonment from 24 hours to 1 week, and Switzerland custodial sanctions up to 6 months. However, the maximum imprisonment term applicable by penal orders is always minimal, ranging from 3 months in San Marino to 3 years in Slovakia.[49] Consequently, it is possible that these sanctions are always converted into suspended sentences, or into custodial sentences different from imprisonment, in jurisdictions that allow their imposition through penal orders.

Many jurisdictions try to incentivize defendants' acquiescence to penal orders. In most cases, this is done by allowing the imposition of a discounted sentence: in Andorra penal orders can only impose sentences which are half the size of the maximum sentence prescribed by law for the crime; in Greece fines are reduced by at least 2/3 compared to trial, in Spain by 1/3, and in Turkey by 1/4; in Qatar and the United Arab Emirates fines cannot exceed half of the maximum prescribed by law for the crime.[50] Other jurisdictions instead disincentivize oppositions by reducing the size of the fine if paid promptly: in Chile the fine is reduced by 25% if paid within 15 days since the notification of the penal order, while in France it is reduced by 20% if paid

[46] Those jurisdictions are Bahrain, Libya, Kuwait, Qatar, Bosnia and Herzegovina, Montenegro (3.000 euros), France (5.000 euros), Luxembourg (15.000 euros), Japan (1 million yen, roughly corresponding to 6.000 euros).
[47] Those jurisdictions are Czech Republic, Latvia, the Netherlands (for a maximum of 180 hours), Poland, Spain, and the United Arab Emirates. Until 2018 it was also possible to impose community service for no more than 720 hours in Switzerland.
[48] This is the case for Austria (suspended sentence of maximum 1 year imprisonment and only if the accused is represented by lawyer when agreeing to the use of the penal order procedure), Czech Republic (also limited to maximum 1 year), Greece (up to 3 months), Hungary, Montenegro, North Macedonia, Slovenia, Sweden, Taiwan.
[49] Other jurisdictions that allow the imposition of prison terms through penal orders are: Andorra (1 year and 6 months); Mozambique (1 year); Serbia (2 years if the defendant had confessed the crime, and this is punished with up to 5 years imprisonment, or 1 year if it is punished with up to 3 years imprisonment, regardless whether the defendant had confessed or not); Switzerland (custodial sanction up to 6 months); the United Arab Emirates (6 months); Turkey (2 years).
[50] In Qatar the maximum fine is half of the maximum when the use of penal orders is mandatory, i.e. for misdemeanors punished by law with fines below 1.000 Riyals, roughly corresponding to 250 euros. In all other cases the maximum fine is half of the minimum prescribed by law.

within one month.[51] Other jurisdictions instead provide incentives without affecting sentences' size: in Egypt a conviction imposed through penal orders cannot be used as proof in civil lawsuits; in Mozambique defendants only have to pay half of the court costs when they accept penal orders; in San Marino all the effects associated with the criminal conviction cease if the defendant does not commit crimes of the same type in the following 5 years. Finally, few jurisdictions combine multiple incentives: in Albania penal orders can only impose fines reduced by 50% of the maximum provided by law for the crime, the conviction cannot be used as proof in other proceedings (including other criminal proceedings), the defendant shall not pay court expenses, and the penal order is not reported in the defendant's criminal record, unless they are recidivists; in Italy, in addition to the benefits described for Albania, the payment of the fine can be conditionally suspended, if the fine itself was imposed as substitution of a custodial sentence, and all the effects associated with the criminal convictions cease if the defendant does not commit misdemeanors of the same type in the following 2 years, or felonies of the same type in the following 5 years.[52]

Other jurisdictions instead almost seem to incentivize oppositions to penal orders. In Iraq and Kuwait, a defendant's opposition cannot result in the imposition at trial of a more severe sentence that the one imposed by penal order. In Lebanon and Syria, if the defendant is found guilty at trial following opposition, the sentence can only be increased by maximum 50% compared to what was imposed by penal order.

Finally, Scandinavian jurisdictions generally regulate different penal order procedures, based on their applicability, the issuing authority, and the terms and modalities for accepting or opposing the order. In particular, they usually distinguish between proper penal orders, which can only be issued by prosecutors, and simplified penal orders, issued by police officers or other law enforcement agents to deal with common misdemeanors, such as road traffic law violations.[53]

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[51] In France fines imposed by penal orders are already reduced by 50% compared to what would have been imposed in case of conviction at trial, see art. 707-2 Code of criminal procedure.

[52] Despite all these benefits, penal orders are often opposed by defendants in Italy, as it will be shown in Section 2.5. In turn, Chapters 4 and 5 will identify possible reasons for the ineffectiveness of the described incentives in promoting the use of penal orders in Italy.

[53] Finland distinguishes between penal orders (*Rangaistusmääräyksellä*), fine orders imposed by other public officers (*Sakkomääräyksellä*) and misdemeanor fine orders (*Rikesakkomääräyksellä*); see Act 754/2010. Norway distinguishes between penal orders (*Forelegg*) and simplified penal orders (*Forenklet forelegg*); see Code of criminal procedure, Sections 251-261 for penal orders, and Road Traffic Act, Small Boats Act, and Customs Act for simplified penal orders. Sweden distinguishes between penal orders (*Strafföreläggande*) and fine orders (*Föreläggande av ordningsbot*); for both, see Code of criminal procedure, Chapter 48.

2.4. Plea bargaining

2.4.1. Origins and diffusion

Plea bargaining is sometimes listed among the characteristic features of the adversarial systems of criminal procedure (Garoupa and Stephen, 2008; Givati, 2014; Langer, 2007). Plea agreements can be considered the epitome of certain features of the adversarial model, by assigning to the parties the control over the outcome of the case, even if such outcome does not correspond to the historic objective truth, in front of a judge who acts as a passive umpire (Hodgson, 2006; Grande, 2016). Within the adversarial tradition, plea bargaining is especially associated with U.S. criminal procedure, defined by the Supreme Court itself as "a system of pleas, not a system of trials".[54] Consequently, the global diffusion of plea bargaining has sometimes been defined as "Americanization" of criminal procedure (Langer, 2004).

However, the first jurisdiction to allow the imposition of criminal convictions without trial, solely based on the defendant's consent, was Spain in 1882 through the procedure called *conformidad* (Varona et al., 2022). The name means "conformity", since the defendant conforms to the indictment's content, while the judge, after verifying the existence of formal legal requirements, imposes a "conviction based on conformity" (*sentencia de conformidad*).[55] Despite its historical primacy, Spanish *conformidad* did not enjoy significant success as model for legal transplant.[56]

Historically, the second jurisdiction to formalize plea bargaining were the Philippines in 1940 (Langer, 2021).[57] This is not surprising, considering that the Philippines were under Spanish rule between 1575 and 1898, so that *conformidad* had been part of the criminal procedure law of the archipelago, and under U.S. rule since then until 1946, when plea bargaining was already dominating the U.S. practice. Indeed, already during the 1920s, the reports of various governmental commissions revealed the pervasiveness of plea bargaining in the functioning of the U.S. criminal justice system. For example, a study on the courts of Manhattan and Brooklyn

[54] Lafler v. Cooper, 566 U.S. 156, 170 (2012).
[55] Currently, in case of crimes punished with less than 5-year imprisonment, the defendant's conformity is rewarded by law with a 1/3 discount over the sentence requested by the prosecutor in the indictment. In case of crimes punished between 5 and 6-year imprisonment, the size of the sentence discounted is instead negotiated by the parties and not established by law. See Varona et al. (2022), p. 310.
[56] Even in former Spanish colonies in the Americas, plea-bargaining procedures were not adopted until the 1990s, in most cases more than one century after the end of Spanish rule. The main reason lies in the limited prestige enjoyed by Spanish legal thought as model for legal reforms between the XIX and the XX centuries, especially in comparison with the French, German, and U.S. ones (Kennedy, 2006).
[57] The 1940 Rule of Courts stated that: "The defendant, with the consent of the court and of the fiscal, may plead guilty of any lesser offense than that charged which is necessarily included in the offense charged in the complaint or information"; Rule 114, Section 4

showed that guilty pleas accounted for less than 15% of all convictions in 1839, but that figure rose to 80% already at the end of the 19th century, until reaching 90% in 1926 (Moley, 1928).[58] Those reports came as a shock for the public opinion, the legal doctrine, and higher courts, since the practice developed spontaneously and remained confined to the practice of lower courts (Alschuler, 1979). The agreements did not take place in open courts and, being mutually satisfactory for defendants and prosecutors, were rarely challenged in appeal, thus remaining hidden to both the public opinion and the legal elite. Despite the prevalence of guilty plea agreements in practice, traditional jurisprudence (Alschuler, 1979) and legal doctrine considered inadmissible all defendants' declarations induced by exploiting "the party's hopes or fears" (Cooley, 1871, p.338). For this reason, the Supreme Court did not uphold the constitutionality of the practice until 1970.[59] The decision itself was probably justified by pragmatic considerations, rather than by doctrinal ones, considering the fundamental role already played by plea bargaining for the functioning of the criminal justice system at the time. In fact, in 1971 the Supreme Court declared that "If every criminal charge were subjected to a full-scale trial, the States and the Federal Government would need to multiply by many times the number of judges and court facilities" and defined plea bargaining "an essential component of the administration of justice".[60]

In the same years similar practices existed also in other common law jurisdictions, favored by the availability of guilty pleas as a mean for shortening case disposal, and by the adversarial nature of criminal proceedings (Baldwin and McConville, 1979). However, as in the U.S. until the 1920s, the existence of those practices was publicly concealed (Thomas, 1978; La Fontaine and Rondinelli, 2005) since "the idea of plea bargaining […] has traditionally been regarded as repugnant to the English legal system" (Baldwin and McConville, 1979, p.288). In the U.S. itself plea bargaining was still heavily criticized, and several legal scholars called for a ban on it (Schulhofer, 1984, 1992; Fine, 1987; Smith, 1987). Consequently, plea bargaining did not initially constitute a successful model for legal transplants.

Things changed in the late 1980s, when plea bargaining started to drive the rampant adoption of administratization procedures worldwide, as described in Section 2.2. The diffusion of plea

[58] Similar figures were reported in those years for other U.S. States and for federal courts. See e.g. Illinois Association for Criminal Survey (1929) and Waterman (1935).
[59] Brady v. United States, 397 U.S. 742. Before the United States, plea bargaining became part of the criminal justice systems of Equatorial Guinea when the country declared its independence from Spain and adopted the Spanish Law of criminal procedure of 1882, including *conformidad*, as part of its national legislation.
[60] Santobello v. New York, 404 U.S. 257 (1971)

bargaining in this period is strictly connected to the global spread of adversarial reforms in criminal procedure.

In 1988 Italy adopted a new Code of criminal procedure, with the stated objective of "implementing in criminal procedure the typical traits of the adversarial model".[61] Among those traits the lawmaker included the production of evidence at a public and oral trial, the cross-examination of witnesses in court, the equality of arms between prosecution and defense, the role of the judge as a passive umpire (Grande, 2000; Pizzi and Montagna, 2004; Illuminati, 2005). Notably, plea bargaining was also considered by Italian reformers as a natural component of any adversarial system of criminal procedure.[62] Most likely, this opinion was influenced by the preeminence attributed by Italian reformers to the U.S. system as archetype of the adversarial model of criminal procedure (Mura and Patrono, 2011).[63]

Beyond its identification with the adversarial tradition, plea bargaining was introduced in Italy following economic motivations. Indeed, ordinary trials in the new system would have been much costlier in terms of time and resources compared to previous inquisitorial trials, which were often little more than a review of the investigation dossier (Pizzi and Marafioti, 1992). Consequently, reformers stated that "the new system will function properly only if we manage to use ordinary trials for just a small portion of all proceedings".[64] In this sense, Italian lawmakers seconded the economic arguments provided by the U.S. Supreme Court for the desirability of plea bargaining[65] and by many scholars for its emergence (Ortmann, 2020) and global success (Thaman, 2007; Hodgson, 2015).

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[61] Own translation, see art.2, Act n. 81 of 16 February 1897. The new Code of criminal procedure replaced the one enacted in 1930 and characterized by inquisitorial features.

[62] The report that accompanied the new Italian Code of criminal procedure stated that "The adoption of an adversarial system […] necessarily involves greater powers for the parties and the possibility for them – on an equal footing – of determining the course of the procedure". Own translation, see Italian Ministry of Justice (1988). However, as discussed above, plea bargaining was instead considered in contrast with the fundamental principles of the adversarial system by a significant part of the Anglo-American legal doctrine. See e.g. Schulhofer (1984) and Van Cleave (1997).

[63] As discussed in Section 2.3., the worldwide success of plea bargaining as a legal transplant is partly explained by the hegemonic status of U.S. legal doctrine since the second half of the 20th century (Mattei, 2003; Kennedy, 2006). In particular, the U.S. legal system started to be considered as the paradigmatic common law model by reformers within the civil law tradition (Legrand, 1996). For a comprehensive analysis of the U.S. influence on the Italian reform of criminal procedure, with specific regard to plea bargaining, see Amodio and Bassiouni (1988).

[64] Own translation, see Italian Ministry of Justice (1988). The new Code introduced numerous alternatives to ordinary trials besides plea bargaining, such as penal orders, which were already regulated in the Code of 1930, and abbreviated trials. As it will be shown in Section 2.4., and discussed in detail in Chapters 4 and 5, ordinary trials are still used in a large number of cases today, while the use of plea bargaining and penal orders is decreasing year after year.

[65] "«Plea bargaining» is an essential component of the administration of justice. Properly administered, it is to be encouraged. If every criminal charge were subjected to a full-scale trial, the States and the Federal Government would need to multiply by many times the number of judges and court facilities", Santobello v. New York, 404 U.S. 257 (1971).

In 1988 Italy thus became the first jurisdiction of inquisitorial tradition to introduce plea bargaining as part of a broader adoption of adversarial features.[66] However, U.S.-style plea bargaining constituted a vague inspiration rather than an actual model for the legal design of the new procedure. In fact, an agreement between the defendant and the prosecutor constitutes the basis of the imposition of a discounted criminal conviction without trial, but the resemblances end here. The Italian legislation established instead a new model, later adopted by most inquisitorial jurisdictions when introducing plea bargaining (Langer, 2007; Semukhina & Reynolds, 2009). Such an inquisitorial model of plea bargaining is characterized by the following features: first, the procedure cannot be applied in all cases, but it is instead limited to less serious offences;[67] second, charge bargaining is excluded; third, the size of the maximum sentence discount in case of plea agreement is defined by law.

The persistence of an inquisitorial approach to the procedure is also reflected in its official name, which is "Imposition of a criminal sanction upon the parties' request" (*Applicazione della pena su richiesta delle parti*).[68] Indeed, the procedure allows for the imposition of a criminal sanction, but not of a criminal conviction in a traditional meaning, since it is only based on an agreement, without a necessary correspondence with the historic truth (Peroni, 2019). Consequently, the conviction imposed through plea bargaining cannot be used as proof in other proceedings, differently from convictions imposed at trial.[69] Hence, the Italian experience opened to the transplant of plea bargaining outside of the adversarial tradition, but in a way strongly influenced by an inquisitorial approach to criminal procedure.[70]

Starting from the early 1990s, jurisdictions in Latin America also begun to adopt new codes of criminal procedures, framing the reforms as a transition from the inquisitorial to the adversarial

[66] Already in 1981 Italy introduced a simplified procedure known in the practice with the name of *patteggiamento*, literally "bargaining". The name reminded some sort of U.S. inspiration (Grevi, 1985) and it is the same one currently used for the plea-bargaining procedure of 1988. According to the procedure of 1981, the defendant, before the beginning of trial and with the prosecutor's consent, could request the imposition of a noncustodial sentence in the case of less serious misdemeanors. The procedure was not available for defendants who already enjoyed of this benefit, and for those previously sentenced to prison. The 1981 procedure cannot be considered a true plea bargaining, since no conviction was imposed, but just an administrative sanction (Grevi, 1985). See Act n.689 of 24th November 1981, at art.77-80.

[67] In the original Code of 1988 plea bargaining could only be applied to crimes that, after applying a 1/3 sentence reduction, were punished with a maximum prison term of 2 years. In 2003 a reform extended the threshold to 5 years, but in case of prison sentences above 2 years plea bargaining is still excluded for terrorism crimes, organized crime, some sexual crimes, and if the defendant is a recidivist.

[68] The name used in practice is instead *patteggiamento*, which literally means "bargaining", and which clearly recalls the U.S. inspiration. The plea-bargaining procedure adopted by San Marino in 2022, and significantly influenced by the Italian model, is called *patteggiamento* also in official documents.

[69] From a systematic doctrinal point of view this consequence is dictated by the special nature of plea-bargaining convictions, but in practice it acts as a further incentive for defendants towards the use of the procedure.

[70] For the resistance of inquisitorial attitudes in Italy after the adversarial reform see Grande (2000).

model (Langer, 2007). As in Italy, the adoption of adversarial features was regarded as a way for increasing both the level of human rights protection and the efficiency of the system.[71] In addition, adversarial reforms were regarded as part of a more general process of democratization of society by their very same promoters (Binder, 1993; Maier, 1996). The wave of adversarial reforms in Latin America was made possible by the end of authoritarian regimes in the region and strengthened by the consequent demand for new laws as a sign of discontinuance from the past (Langer, 2007).[72] During the reform process, the term "adversarial" was used as a slogan, being associated with an inherent better protection of human rights, democracy, transparency, and even higher efficiency (Langer, 2014). All the subsequent criminal procedure reforms in Latin America included the introduction of plea-bargaining procedures, because considered essential elements of any adversarial systems of criminal procedure (Langer, 2007).[73]

The Model Code of Criminal Procedure adopted by the Iberian American Institute of Procedural Law in 1988 played a central role in shaping the content of the Latin American adversarial reforms. The Model Code of 1988 itself reproduced verbatim the contents of the Criminal Procedure Code Draft for Argentina of 1986, which already provided for a plea-bargaining procedure (Langer, 2007). Interestingly, the regulation of plea bargaining in both the Model Code of 1988 and the Argentinean Draft of 1986 closely resemble the legal design of the Italian plea-bargaining procedure of 1988.[74] One might then argue that Italian plea bargaining, although mentioning the U.S. as main inspiration (Italian Ministry of Justice, 1988; Amodio and Bassiouni, 1988), followed the model presented in the Argentinean Draft of 1986.[75]

[71] Notably, human rights protection and the efficient enforcement of criminal law are often considered as opposing objectives that respectively characterize the "crime control model" in opposition to the "due process model" of criminal justice (Packer, 1964). For a comparison of inquisitorial and adversarial procedure with regard to efficiency in the production of evidence, see Posner (1999).

[72] The same motivation is partly present in the Italian reform, since it replaced the Code of criminal procedure of 1930, promulgated during the fascist era, and considered in potential contrast with the democratic principles of the Constitution of 1948 (Tonini, 1996).

[73] As discussed above, Italian reformers were probably the first to expressly including plea bargaining among the characterizing features of the adversarial model. The Italian approach was highly influential on Latin American codification, as it will be discussed in more detail in the following.

[74] As in the Italian regulation of 1988, plea bargaining is only applicable to crimes punished *in concreto* with less than 2-years imprisonment. However, the size of the sentence discount is not set by law in its maximum, being determined by the negotiations between prosecutors and defendants, who, like in the Italian regulation, must be represented by a lawyer. The extent of judicial review is greater than in the original Italian regulation, since judges can convict and impose a sentence not greater than the one requested by the prosecutor, but they can even acquit the defendant. Furthermore, judges can reject the agreement if they deem preferrable an ordinary trial "in order to better ascertain the facts or if a more severe sentence than the one requested should be imposed" (own translation, see art. 373,3 Model Code).

[75] The Argentinean Draft of 1986 precedes by at least one year the Italian enabling law for the reform of the Code of criminal procedure. In particular, art.2, point 45 of enabling law n.81 of 16th February 1987, n. 81 contains the same features of the Argentinean Draft of 1986.

However, the influence does not run from Argentina to Italy, but it is rather a circular one. Indeed, the Argentinean jurist Julio Maier, author of both the Draft of 1986 and the Model Code of 1988, expressly mentioned the projects for the future Italian Code of criminal procedure of 1988 among his main foreign inspirations (Maier, 2016).[76] Already in 1984 the draft enabling law for the reform of the Italian Code of criminal procedure contained a plea-bargaining procedure with the same characteristics of those of the Argentinean draft of 1986, with the only difference that its applicability was limited to crimes punished with maximum 1-year imprisonment.[77] Thus, it appears that Maier modeled plea bargaining after the projects for the Italian Code of 1988, which then in turn reproduced the main legal design choices of the Argentinean Draft of 1986.

The Italian Code of 1988 represented a model for the subsequent adversarial reforms in Latin America, both directly and through its influence on the Model Code of 1988 (Fairén Guillén, 1991). Another contemporary source of inspiration for Latin American plea bargaining was the 1988 reform of Spanish *conformidad* (Fairén Guillén, 1991), which extended the applicability of the procedure and allowed prosecutors and defendants to negotiate over the size of the sentence discount.[78]

The United States also played a relevant role in shaping the adoption of plea bargaining in Latin America, both through direct involvement in the reforms and as embodiment of the adversarial model of criminal procedure (Legrand, 1996; Langer, 2007). The extent of the U.S. influence vis-à-vis that of the Model Code of 1988, and of Italy and Spain, is noticeable both in the denomination of plea-bargaining procedures and in their regulation across different Latin American jurisdictions. Jurisdictions more influenced by the U.S. model generally highlight the negotiation element in the denomination of plea-bargaining procedures, like Colombia with "preliminary agreements and bargaining" (*preacuerdos y negociaciones*), Nicaragua with "agreements" (*acuerdos*), Panama with "sentence agreements" (*acuerdos de pena*). These procedures are typically regulated in a less restrictive manner, compared to those of other jurisdictions of inquisitorial tradition. For example, the applicability of plea bargaining is not

[76] The other two main models were the Code of criminal procedure of Cordoba (Argentina) of 1939, and the criminal procedural law of Germany after the 1964 reforms. Conversely, it is interesting to notice how Maier himself points out his nearly total disregard for the Anglo-American legal world, besides from the institution of trial by jury. See Maier (2016), p.249.

[77] For the legal design of plea bargaining in the draft enabling law of 1984, see Grevi (1985), p.67-68.

[78] From its introduction in 1882, until 1988, *conformidad* was only applicable to crimes punished with up to 6-year imprisonment and, albeit allowing the imposition of a conviction solely based on the defendant's agreement with the content of the indictment, did not expressly allow for any negotiation regarding the sentence size. See Uriarte Valiente (2002), p. 6-7.

restricted at all, or only marginally, charge bargaining is allowed, judicial scrutiny is limited to the respect of procedural norms, and it does not extend to the contents of the agreements. The greater U.S. influence is usually the result of a more intense and direct involvement of U.S. agencies, in particular the Department of State, during the reform process. A higher degree of U.S. influence is usually found in jurisdictions that constitute the place of origin of criminal activities that reach the U.S. (Langer, 2007). Instead, jurisdictions more influenced by the Model Code of 1988 generally use the denomination adopted by the Code itself, i.e. "abbreviated procedure" (*procedimiento abreviado*).[79] Because of the greater influence of the Model Code of 1988, and of other jurisdictions of inquisitorial tradition such as Italy and Spain, these jurisdictions generally adopt a stricter regulation of plea bargaining. For example, applicability is limited to crimes of moderate gravity, bargaining on charges is not allowed, and judicial scrutiny over the agreement is more thorough.[80]

The wave of adversarial reforms in Latin America started with Colombia in 1991 and ended with Mexico in 2009. Lastly, Uruguay adopted a new adversarial code in 2017, so that now all former Spanish colonies in the America have introduced plea bargaining.

During the 1990s common law jurisdictions outside of the U.S. started to regulate plea bargaining, thus formalizing existing widespread practices which were however concealed and officially not incentivized in previous years (Thomas, 1978; Baldwin and McConville, 1979; La Fontaine and Rondinelli, 2005). The formalization of plea-bargaining practices was motivated by the same two concerns that induced the U.S. Supreme Court's interventions in the 1970s. On the one hand, clear rules were needed to guarantee the fairness of the process and the protection of defendants' procedural rights. On the other hand, guilty plea procedures were regarded as useful tools for ensuring the proper functioning of overburdened criminal courts. Despite the common motivations, the regulation of guilty plea procedures differs from the U.S. In particular, the size of the sentence discount is not determined by free negotiations between

[79] The name *procedimiento abreviato* is the most common one in Latin America, and it is also adopted by jurisdictions more influenced by the U.S. model, such as Argentina (Langer, 2004). Outside of the Spanish-speaking world, the term "abbreviated procedure" refers to plea bargaining in Switzerland (German: *abgekürztes Verfahren*; French: *procédure simplifiée*; Italian: *procedura abbreviata*). In the Italian Code of 1988, the name abbreviated procedure (*procedimento abbreviato*) does not refer to plea bargaining, but to a different special procedure, according to which the defendant can choose to be tried according to the content of the investigation dossier, as in the old inquisitorial procedure, enjoying a 1/3 sentence discount in case of conviction. The abbreviated procedure is sometimes referred to as "bargaining over the procedure" (*patteggiamento sul rito*) while plea bargaining as "bargaining over the sentence" (*patteggiamento sulla pena*), to highlight the common consensual basis and the different effects of the two procedures (Grevi, 1985; Italian Ministry of Justice, 1988).

[80] The next subsection will discuss more in detail the possible variations in the legal design of plea-bargaining procedures.

the parties, but it is adjusted to the procedural stage in which a guilty plea is entered, so that early guilty pleas are rewarded with more generous sentence discounts.[81] In addition, certain common law jurisdictions allow judges to indicate, generally upon the defendant's request, the likely sentence that would be imposed at trial and the one that would be imposed in case of guilty plea.[82] In this way the judge is not only a passive umpire, as in the U.S. federal model, but it becomes a facilitator of guilty pleas.[83] As in Latin America, the different conceptions and regulations of plea bargaining are reflected in different names. In many common law jurisdictions, the term "bargaining" is firmly avoided, even where charge negotiations are allowed,[84] while more neutral terms are preferred, such as "resolution discussions" in Canada or "sentence indication" in New Zealand (Brook et al., 2016).

Starting from the late 1990s a new wave of diffusion interested Central and Eastern Europe in conjunction with adversarial reforms following the end of Socialist regimes. As in Latin America, the adoption of the adversarial model was considered at the same time part of a general transition to democracy and a way for increasing the efficiency of the criminal justice system. As discussed in Section 2.3.1., many jurisdictions in Central and Eastern Europe started by introducing penal orders, as administratization methods closer to their inquisitorial background, and later also introduced plea bargaining;[85] in other cases penal orders and plea bargaining were introduced at the same time, placing a greater emphasis on efficiency aims rather than on procedural traditions;[86] in still other cases plea-bargaining procedures were introduced as sole administratization methods.[87] The different approaches towards the adversarial transition are also reflected in different legal design of plea-bargaining procedures, with stricter regulations in jurisdictions that also adopted penal orders. As in Latin America, the different approaches

[81] The reason is that earlier guilty pleas correspond to higher resource savings for the criminal justice system. Generally, sentence discounts range from a maximum of 1/3 for guilty pleas entered at the first available occasion, down to 1/10 of even 1/20 for guilty pleas entered on the day of trial. See e.g. Crimes (Sentencing Procedure) Act 1999 No 92 for New South Wales (Australia); "Reduction in Sentence for a Guilty Plea - Definitive Guideline" of 2017 by the Sentencing Council for England and Wales; "Guidelines on Reduction in Sentences for Guilty Pleas" of 2023 by the Sentencing Advisory Panel for Singapore.

[82] See e.g. R v Goodyear [2005] EWCA Crim 888 (England and Wales); Criminal Procedure Act 2011, pt 1 s 60 (New Zealand).

[83] For a different judicial role in certain U.S. jurisdictions see Turner (2006).

[84] For example, the "Standards of Advocacy" issued by the Public Prosecution Service of Northern Ireland state that "The defence may on occasion approach the Prosecution Service with an offer to plead guilty to only some of the charges that they are facing, or to a lesser charge or charges, with the remaining charges not being proceeded with", while affirming in the same document that "«Plea bargaining» has no place in the practice or procedures of the PPS", Public Prosecution Service (2019) at point 7.

[85] E.g. Croatia, Serbia, and Slovenia.

[86] E.g. Bosnia and Herzegovina, Estonia, Latvia.

[87] E.g. Bulgaria, Russia, Moldova.

towards the regulation of plea bargaining might be explained by the differing influence of the U.S. legal system vis-à-vis European inquisitorial models (Ajani, 1995).

In 2009 plea bargaining was also formalized in Germany (Rauxloh, 2010). The German experience is unique, because it constitutes the only case of informal plea-bargaining practice developed in a jurisdiction of inquisitorial tradition. In turn, this is reflected in the special features of its legal design, starting with the central role of the judge, which is the main negotiator of the confession agreement with the defendant, while the prosecutor is relegated to a marginal role. Another typical inquisitorial feature is the requirement that the judge, even after a confession agreement, "remains obliged to ascertain the truth".[88] Surprisingly, the applicability of the procedure is not limited by law, differently from other jurisdictions of inquisitorial tradition. However, the procedure is sparsely used in practice, as will be shown in Section 2.5. The reason is that the practice of confession agreements developed with reference to most complex victimless crimes, such as white-collar crimes, regulatory violations, tax fraud, so that the formalized procedure is not considered susceptible to generalized applicability (Langbein, 2022). Consequently, German judges limit the use of confession agreements to those categories of cases that motivated the origin of the procedure itself.[89]

In most recent years plea bargaining has continued its expansion, without following regional patterns. Instead, the adoption of this kind of procedure is currently motivated by efficiency concerns, and not by the identification of plea bargaining as a typical feature of adversarial criminal proceedings. The overarching relevance of efficiency concerns is testified by the most recent reforms of entire codes of criminal procedures, which entail the simultaneous introduction of penal orders along with plea bargaining.[90]

A final novel development in the diffusion of plea bargaining is its possible expansion to the Arab world. Chapter 3 will discuss and show how Sharia principles are not conducive to the adoption of plea-bargaining procedures. However, the most recent adoption of plea bargaining took place precisely in an Arab jurisdiction, with the 2022 Code of criminal procedure of the United Arab Emirates. As in the German case, U.A.E. plea bargaining constitutes a peculiar

[88] German criminal procedural law, section 204. This requirement is considered as "mere window dressing" (Langbein, 2022, p.154) since a court will always find in the investigation dossier some evidence supporting the confession, after engaging in successful negotiations. However, the very mentioning of the word "truth", understood as objective truth (Weigend, 2011), testifies a persisting ideal adherence to inquisitorial "structures of interpretation and meaning" (Langer, 2004, p.10).

[89] Chapter 3 will consider in detail the potential effect of "structures of interpretation and meaning" (Langer, 2004, p.10) proper of different legal traditions on the use of plea bargaining, even in front of similar formal regulations of plea bargaining.

[90] E.g. Kazakhstan in 2014, Albania in 2017, Greece and Turkey in 2019.

model. Its regulation is indeed stricter even when compared to other inquisitorial jurisdictions, since it only allows for the imposition of a predetermined number of lighter criminal sanctions.[91] As in inquisitorial jurisdictions the applicability of the procedure is limited, but such limitation is prescribed in a peculiar way, by referring to "Qisas and Diyya offences",[92] which are categories of crimes proper of the Sharia legal tradition. The following years will show whether the U.A.E. reform will remain an isolated experience in the Arab world, or if it will open new territories to the expansion of plea-bargaining procedures.

2.4.2. Legal design

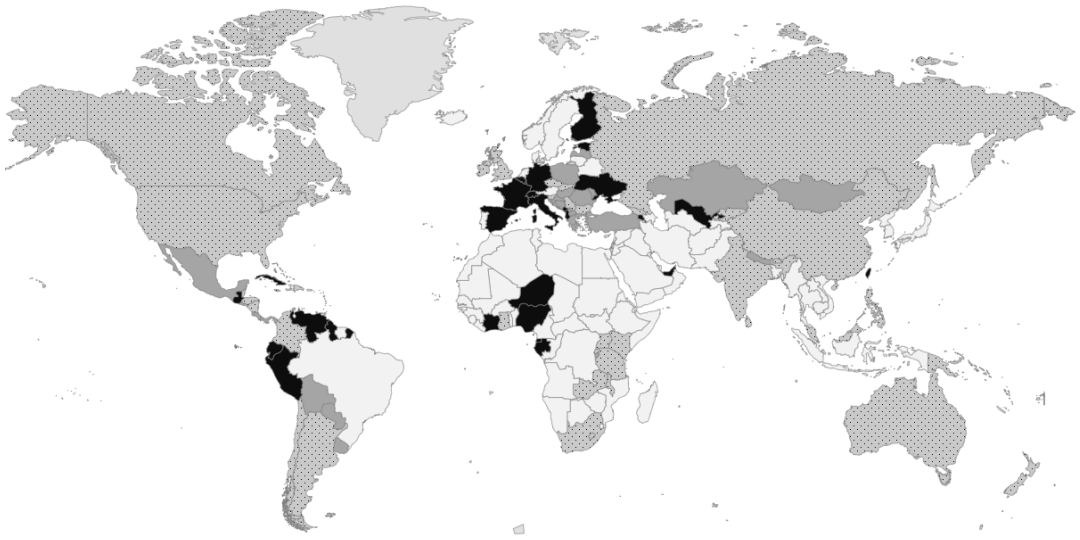
Through the survey and personal research, as described in Section 2.1., I also gathered information about the legal design features of plea bargaining in the 102 jurisdictions that formalized this type of procedure.

Based on the information gathered, it appears that the regulation of plea bargaining varies across the following four dimensions: the applicability of the procedure; the possible contents of the negotiations; the role of defense lawyers and victims; the thoroughness of the judicial review of the agreement.

In order to describe how stringent the regulation of plea bargaining is across different jurisdictions, I coded the information related to the legal design features identified above, and I used it in a cluster analysis, on the model of Voigt (2021).[93] In order to ensure the robustness of the results, and to avoid placing an excessive weight on some aspects at the expense of others, several clustering options were tested, as documented in Appendix B.2. The clustering algorithm thus placed each of the 102 jurisdictions with a formalized plea-bargaining procedure in one of three clusters, corresponding to a minimal, intermediate, or maximal level of regulation, as depicted in Figure 1.3.

[91] In case of misdemeanors, art. 362 enumerates the same sanctions that can be imposed in the case of penal orders, with the most severe one constituted by a fine not exceeding half of the maximum prescribed by law for the crime. In case of felonies, art. 370 establish that the prosecutor may request a prison sentence no longer than 3 years and not shorter than 3 months, in addition to the sanctions enumerated by art. 362.
[92] Code of criminal procedure, art. 361.
[93] Appendix B.1. reports in detail which variables were coded and used in the cluster analysis, and what aspects they consider. Since the variables considered are both continuous and categorical, the standard k-means technique was adopted, with random centroids (Hair et al., 1998). The variables used for clustering are directly related to the functioning of plea-bargaining procedures, not to the legal system at large. The resulting clusters are identified by the clustering algorithm, without the interference of discretionary choices by the author, besides those related to the choice of the relevant variables and the number of clusters to be produced. All those choices are discussed in detail in Appendix B.2.

Figure 1.3. Regulation level of plea bargaining



Note: Black – maximal regulation; solid grey – intermediate regulation; dotted light grey – minimal regulation.

In total, 29 jurisdictions are included in maximal regulation cluster includes, 23 in the intermediate one, and 50 in the minimal one. [94]

Regarding the typical content of the regulation, jurisdictions in the maximal regulation cluster limit the applicability of plea bargaining to crimes of moderate gravity, while excluding altogether certain categories of crimes or defendants; they do not allow charge and fact bargaining, usually establishing by law the sentence discount's size in case of plea agreement; they require the participation of a defense lawyer since the beginning of the procedure and sometimes endow victims with veto rights; they provide for a thorough judicial scrutiny, whose object includes substantive aspects of the agreement.[95] As it can be noted in Figure 1.3., most Western European jurisdictions belong to the maximal regulation cluster. As described with reference to Italy and Germany in Section 2.4.1., those jurisdictions display a persistent inquisitorial approach to the procedure: since the main goal of criminal procedure is discovering the objective truth, plea bargaining must be considered as a special procedure and consequently limited in its applicability.

Jurisdictions in the intermediate regulation cluster also limit the applicability of plea bargaining, but in a less restrictive way; they also do not allow for charge and fact bargaining, generally establishing by law the maximal sentence discount in case of plea agreement; they usually

[94] Appendix A.3. also reports in which cluster each jurisdiction is placed.
[95] For example, before validating a plea agreement, judges in France are required to verify the truthfulness of the facts described in the indictment and their correspondence to the charges, and they can refuse validation if they deem an ordinary trial preferrable, considering the nature of the contested facts, the defendant's personality, the victim's situation, and the interests of society. See Code of criminal procedure, art.495-11 and 495-11-1.

mandate legal representation since the beginning of the procedure, and sometimes endow victims with veto rights; they mandate a limited judicial scrutiny over the agreement, encompassing only the formal respect of the procedure. As depicted in Figure 1.3., the intermediate regulation cluster mainly includes jurisdictions of inquisitorial tradition in Latin America and in the former Socialist bloc. For some of those jurisdictions the choice of an intermediate model over a more restrictive one is consequence of a major U.S. influence (Ajani, 1995; Langer, 2007). The intermediate regulation cluster also includes most of the jurisdictions of inquisitorial tradition that introduced plea bargaining in recent years. This might be interpreted as further evidence of the convergence of legal systems, especially though a departure from typical inquisitorial features, induced by efficiency concerns (McEwan, 2011; Brants, 2018).

Jurisdiction in the minimal regulation cluster instead do not limit the applicability of plea bargaining; they allow for sentence, charge, and fact bargaining, usually without limiting by law the sentence discount's size in case of agreement;[96] they do not mandate legal representation for defendants, and do not endow victims with veto rights; they limit judicial scrutiny to the formal respect of the procedure, and they sometimes allow limited judicial intervention during negotiations in order to facilitate the conclusion of an agreement, e.g. by providing indication over the likely sentence at trial and in case of plea bargaining (Jontcheva Turner, 2006). All jurisdictions of adversarial tradition belong to the minimal regulation cluster, while those of inquisitorial tradition included in this cluster are located in Latin America or belong to the former Socialist bloc. As for the intermediate regulation cluster, this might be the result of a greater influence of U.S. models compared to European ones, or it can represent evidence of a more decisive departure from traditional inquisitorial approaches to negotiated justice, in order to attain greater efficiency. The latter case applies to the 2020 reform of plea bargaining in Czech Republic, which moved the jurisdiction from the maximal to the minimal regulation cluster. The reform was aimed at increasing the use in practice of the plea-bargaining procedure introduced in 2012.[97]

[96] As discussed in Section 2.4.1. some common law jurisdictions represent exceptions to this rule, since the size of the sentence discount is determined by law, according to the procedural stage in which the guilty plea is entered.
[97] See Act No. 333/2020. The number of plea agreements nearly tripled following the reform, but the procedure still remains extremely marginal in the functioning of the Czech system of criminal procedure, as shown in Section 2.5. A possible reason is the role played by legal traditions as "structures of interpretation and meaning" (Langer, 2004, p. 10) that guide procedural choices regardless of the specific content of plea-bargaining regulations. This aspect will be discussed in greater detail in Chapter 3.

Chapter 3 will consider whether the observed variation in the legal design of plea-bargaining procedures is systematically linked with the extent of use of those procedures in practice. The extent of use of plea bargaining and penal orders is instead described in the next section.

2.5. The administratization of criminal convictions in practice

The present section describes to what extent criminal convictions are imposed through administratization methods worldwide. Following Langer (2021), I computed the administratization rate of criminal convictions as the percentage of criminal convictions imposed through plea bargaining and penal orders over the total number of criminal convictions imposed in a given jurisdiction and year. [98] Thus, in jurisdictions that regulate both penal orders and plea bargaining, the total administratization rate is given by the sum of plea-bargaining rates, i.e. the percentage of convictions imposed through plea-bargaining over all convictions,[99] and penal orders rates, i.e. the percentage of convictions imposed through penal orders over all convictions. Conversely, administratization rates correspond to plea bargaining rates in jurisdictions that only allow plea bargaining, and to penal orders rates in jurisdictions that only allow penal orders.

Due to data availability issues, I was able to compute administratization rates for a total of 60 jurisdictions out of the 125 that regulate at least one administratization method. To the best of my knowledge, this dataset is the most comprehensive one when considering either plea bargaining or penal orders rates, and the only one that includes multiple jurisdictions in the same year, thus enabling meaningful comparisons.[100] The geographical distribution of the 60 jurisdictions is depicted in Figure 1.4., vis-à-vis the distribution of administratization procedures. Data availability is particularly limited in Africa, while administratization rates in

[98] Certain jurisdictions report the number of convictions with reference to cases, while others do so with reference to people. However, discrepancies are minimal when comparing administratization rates based on cases with those based on people in jurisdictions that report both figures (e.g. Czech Republic, Georgia, Moldova).

[99] Following the empirical literature (Stephen et al., 2008; Subramian et al., 2020; Langer, 2021) plea-bargaining convictions are proxied by the number of guilty pleas in most common law jurisdictions, since official statistics do not specify whether guilty pleas were part of plea agreements or not. Such proxy can be considered sufficiently accurate, since guilty pleas constitute the overwhelming disposition method in those jurisdictions, and it is unlikely that so many defendants routinely enter guilty pleas because motivated by repentance and not by some kind of benefits.

[100] Langer (2021) reports administratization rates in just 26 jurisdictions, without considering them all in the same year, but spanning instead from 2013 to 2017. Fair Trials (2017) reports just plea-bargaining rates for 20 jurisdictions, also without referring to one single year, but spanning from 2005 to 2014.

other continents are overall well-reported and the most influential jurisdictions are generally represented.[101]

Figure 1.4. Geographical distribution of reported administratization rates

Note: Solid grey – jurisdictions for which administratization rates are known; dotted grey – jurisdictions that allow for administratization procedures, but for which administratization rates are not known; solid light grey – jurisdictions without administratization procedures.

Figure 1.5. reports the administratization rate of those 60 jurisdictions in 2022, or in the most recent years for which data were available.[102]

A first aspect that can be noted is the importance of administratization methods for the functioning of contemporary criminal procedure. In 40 of the 60 jurisdictions considered, the majority of criminal convictions were imposed either through plea bargaining or penal orders. In 26 jurisdictions, administratization methods even accounted for over 70% of all convictions, while in 12 of them the figure was above 90%.

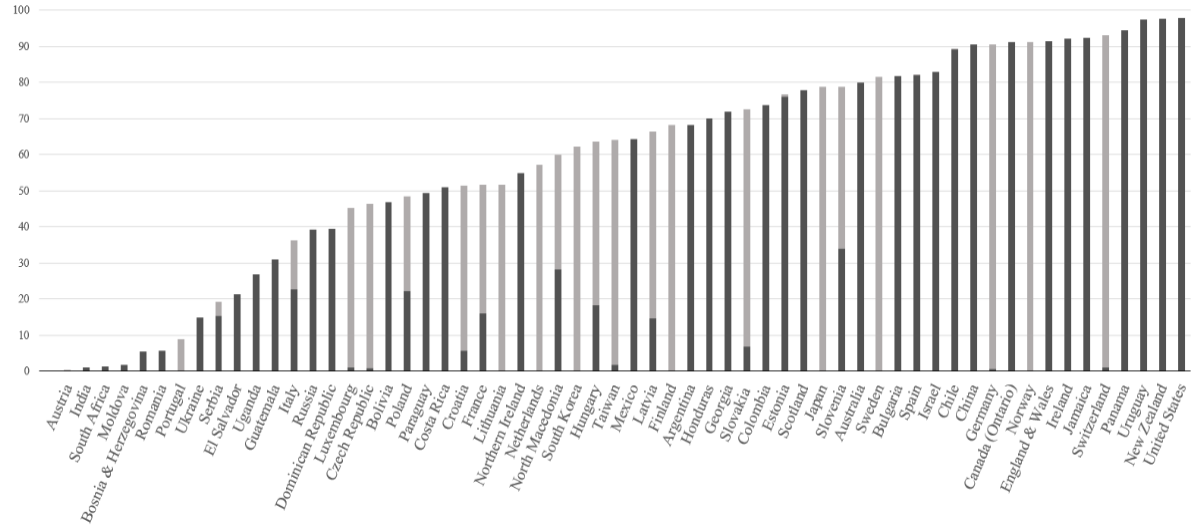
A second element worth underlying is the lack of a strong systematic relationship between procedural traditions and the administratization of criminal convictions. In fact, it is true that administratization rates below 50% are generally displayed by jurisdictions of inquisitorial tradition, but 2 of the bottom 3 positions in Figure 1.5. are occupied by common law

[101] A possible exception is Egypt, first African jurisdiction to introduce penal orders in 1950. The Egyptian model is usually mentioned in the Arabic legal doctrine when discussing penal orders.

[102] Data refer to 2021 for the following 7 jurisdictions: Costa Rica, France, Japan, Slovenia, South Africa, South Korea, Uruguay. Data refer to 2019 in the case of Dominican Republic, Israel, Paraguay, and Scotland. Plea bargaining rate in Switzerland is referred to Canton Ticino, since comparable data are not available at the national level; Ticino's figures do not differ significantly from those of Canton Geneva, employed in the empirical analysis in Chapter 3. The administratization rates of Bosnia and Herzegovina and South Africa do not include penal orders since the corresponding data are not available.

jurisdictions. Conversely, 6 of the 12 jurisdictions with administratization rates above 90% belong to the inquisitorial tradition. Along these lines, it is worth noticing that plea bargaining rates are above 70% in 10 jurisdictions of inquisitorial tradition, in contrast with the widespread opinion that links the inquisitorial tradition to a limited success of plea bargaining in practice (Garoupa and Stephen, 2008; Langer, 2021).

Figure 1.5. Administratization rates in 60 jurisdictions in 2022



Note: Plea bargaining rates in black. Penal orders rates in grey.

A third insight offered by Figure 1.5. is the potential prevalence of penal orders as administratization methods, despite their limited applicability described in Section 2.2.2. such importance of penal orders in practice is at odds with the little attention that they have received in the legal and Law and Economics scholarship so far, especially when describing the phenomenon of "disappearing trials" (Russell and Hollander, 2017). Since penal orders entail the imposition of less severe punishments, in comparison to plea bargaining, they might mitigate the negative consequences of false convictions, which probably constitute the most severe flaw of administratization methods (Natapoff, 2008; Dervan and Edkins, 2013; Dusek and Montag, 2017). At the same time, data show that penal orders can be used to impose the vast majority of criminal convictions in a system, thus constituting a realistic model for criminal procedure reforms (Thaman, 2012).

Finally, Figure 1.5. shows how plea bargaining and penal orders interact when they are simultaneously allowed. In jurisdictions characterized by lower administratization rates, penal orders sometimes get the lion's share (Czech Republic, Luxembourg, Taiwan), other times they prevail but plea bargaining still plays a relevant role (France, Hungary, Latvia), while in still

other cases administratization rates are fairly split (Italy, Poland, Slovenia).[103] Instead, in jurisdictions with administratization rates above 70%, penal orders always overshadow plea bargaining.[104] This is surprising, considering the limited applicability of penal orders. A first explanation is that, in these jurisdictions, the bulk of crimes are misdemeanors included in the penal orders' application range. An additional explanation is that prosecutors prefer ordinary trials to plea bargaining when penal orders cannot be applied, i.e. when dealing with more serious crimes. In turn, such an attitude might be explained by concerns related to the higher accuracy of trials in avoiding wrongful convictions in comparison to plea bargaining (Gilchrist, 2011), and by the more serious consequences carried by a conviction in those cases. Alternatively, such reluctance might be motivated by inquisitorial "structures of interpretation and meaning" (Langer, 2004, p.10) that discourage the use of plea bargaining even when legally allowed.[105]

For 34 jurisdictions I was also able to compute the administratization rate of each year during the period 2015-2022.[106] Overall, administratization rates were rather stable, with percentual variations below 5% in 13 jurisdictions and below 15% in 27 jurisdictions. Latvia was an outlier, with an increase in administratization rates by more than 230%, driven by an exceptional growth in both plea bargaining and penal orders rates. However, in 2022, Latvia still had a total administratization rate below 35%, while jurisdictions with higher values are generally characterized by a greater stability. An exception is represented by Russia, which experienced a decrease in administratization rates by more than 44%, despite an average rate above 57% over the period 2015-2022.[107]

Besides Latvia, the highest increase in penal order rates took place in the Netherlands (+72%). The reason is a change in penal policy, prompted by public demand for tougher responses to

[103] Overall, plea bargaining prevails over penal orders only in Estonia, Italy, and Serbia. However, in the latter two cases the total administratization rate is below 40%.
[104] The only exception being Estonia, where plea bargaining accounted for 76% of all convictions in 2022, while penal orders just for 0.7%.
[105] As pointed out in the definition adopted in Chapter 1, penal orders are always grounded on the results of the investigation dossier, just like inquisitorial trials, while plea bargains are the result of agreements, which do not necessarily mirror all the available evidence. Chapter 3 will empirically test the role of structures of interpretation and meaning typical of different legal traditions in driving plea-bargaining rates across different jurisdictions.
[106] These jurisdictions are Australia, Bulgaria, Canada (Ontario), Chile, Colombia, Costa Rica, El Salvador, England and Wales, Estonia, France, Georgia, Germany, Ireland, Italy, Jamaica, Japan, Latvia, Lithuania, Moldova, Netherlands, New Zealand, Northern Ireland, Norway, Panama, Romania, Russia, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Taiwan, United States of America.
[107] While Latvia has experienced steady growth along the whole period, plea bargaining rates in Russia remained stable around 70% until 2019, when they went down to 60% before plummeting to 42% in 2020 and starting a continuing a slow decline, until reaching 39% in 2022. Russia does not allow penal orders, therefore the administratization rates equal plea-bargaining rates.

crime (Brants, 2018), which resulted in a greater use of penal orders (*strafbeschikking*) at the expenses of out-of-court settlements not resulting in criminal convictions (*transactie*). Decreases above 15% in penal order rates were instead registered in Slovenia (-24%) and Italy (-39%).[108] Both jurisdictions also experienced decreases in plea bargaining rates, respectively by 10% and 4%. Chapters 4 and 5 will discuss potential factors causing the decrease in Italy, while the case of Slovenia is yet to be explained.

Other than in Latvia, plea bargaining rates increased by more than 15% only in France (+17%), which registered a similar growth in penal order rates (+12%).[109] The French figures might reflect efforts by law enforcer towards a greater use of administratization procedures. Other than in Russia, plea bargaining rates decreased by more than 15% in Moldova (-69%), Taiwan (-35%), and El Salvador (-22%). In Taiwan and El Salvador, the decrease did not result in a significant departure from the average of the period.[110] Instead, Moldova constitutes an interesting case, since plea bargaining rates steadily decreased over the last 13 years, plummeting from 41% in 2010 to 1.8% in 2022. Future research might inquiry into the causes of such an exceptional decrease.

2.6. Conclusion

This chapter has considered the process of adoption and the contemporary use in practice of administratization methods in 174 jurisdictions. For 77 of them, the relevant information was gathered through a survey circulated among legal experts, while for the other 97 it was gathered through personal research, based on the direct analysis of legal texts and the legal literature. For all jurisdictions, data about the use in practice of plea bargaining and penal orders was mostly gathered through personal research.[111]

The results show that in 2024 administratization methods are allowed in 125 of the 174 jurisdictions considered, corresponding to 72% of the sample. All continents are interested by the phenomenon, with the greatest number of administratization procedures regulated in Europe and the lowest in Africa. Among those procedures, plea bargaining is the most widespread one, being formalized in 101 jurisdictions (58% of the sample), while penal orders are only regulated

[108] Greater decreases took place in Estonia (-80%) and Chile (-88%). However, the average penal order rate over the period was below 2% in both jurisdictions, so that hundreds of cases can skew the figures.
[109] Plea bargaining rates increased by 26% in Germany. However, the plea-bargaining rate only raised from 0.4% in 2015 to 0.51% in 2022, thus remaining in line with the average of the period (0.52%).
[110] In Taiwan the average plea-bargaining rate over the period was 2.6%, decreasing from 2.8% in 2015 to 1.8% in 2022. In El Salvador the average was 22%, decreasing from 27% in 2015 to 21% in 2022.
[111] The sources for the data on use in practice are listed in Appendix A.3.

in 51 jurisdictions (29% of the sample). Both plea bargaining and penal orders are simultaneously allowed in 28 jurisdictions (16% of the sample), mostly in Europe.

Plea bargaining constitutes the most widespread administratization model, as reflected in the great deal of attention received in the Law and Economics, legal empirical, and comparative literature, especially in comparison to penal orders. However, the success of plea bargaining is the consequence of an exceptional growth in adoption rates over the last 30 years, in contrast with an extremely limited diffusion until the late 1980s. Conversely, penal orders were the first administratization method to experience worldwide diffusion, being adopted by several jurisdictions in Europe and Asia already during the 19th century. Eventually, plea bargaining surpassed penal orders as the most widespread administratization method only in 2004.[112]

Section 2.2. has proposed reasons for both the earlier success of penal orders and their subsequent decline in favor of plea bargaining. The prestige of German legal doctrine between the end of the 19th and the beginning of the 20th century (Kennedy, 2006) first favored the spread of penal orders, regarded as typical component of German criminal procedure (Thaman, 2012). Additionally, penal orders constitute typically inquisitorial procedures (Nicolucci, 2008), since they enable the imposition of criminal convictions without trial, based solely on the written results of an official investigation, secretly carried out by an impartial prosecutor or judge. Thus, convictions imposed by penal orders appear legitimate where trials themselves are little more than audits of previous investigation activities (McEwan, 2011) and where prosecutors are quasi-judicial figures (Brants, 2018) in terms of professional ethos, guarantees, and career paths. Consequently, the potential expansion of penal orders was since the beginning confined to jurisdictions of inquisitorial tradition. The decline of German legal influence first, and of the inquisitorial model later (Langer, 2014), limited the further success of penal orders as legal transplant in comparison to plea bargaining since the end of the 20th century.

Section 2.2. has also offered reasons for the delayed but greater diffusion of plea bargaining. Regarding its later timing, it must be noted that plea bargaining was not formalized in the U.S. until 1970.[113] An unregulated practice, whose very constitutionality was not clear, could not

[112] In that year plea bargaining was formalized in 47 jurisdictions, while penal orders only in 41. Between 2004 and 2024 the number of jurisdictions with plea-bargaining procedures increased by 115%.

[113] The reference to U.S. plea bargaining is motivated by its role in influencing the adoption of similar procedure in other jurisdictions (Amodio and Bassiouni, 1988; Langer, 2004; Goldbach et al., 2013). Spanish *conformidad* is historically the first formalized plea-bargaining procedure, existing since 1882. However, it did not represent a model for reform even in former Spanish colonies until the 1990s. The plea-bargaining procedure formalized by the Philippines in 1940 in turn did not constitute a model for legal transplant, being itself heavy influenced by the Spanish and especially by the U.S. practice.

represent a transplantable model before that date. Even after 1970, plea bargaining encountered many critics in the U.S. (Schulhofer, 1984; Fine, 1987) and it was firmly rejected in other common law jurisdictions, despite the existence of comparable practices (Thomas, 1978; Baldwin and McConville, 1979; La Fontaine and Rondinelli, 2005). Furthermore, as penal orders are inherently inquisitorial, plea bargaining is inherently adversarial (Langer, 2004), so that its adoption appeared impossible in traditionally inquisitorial systems. The subsequent tremendous success of plea bargaining is indeed connected to the prestige enjoyed by American legal solutions since the second half of the 20th century (Legrand, 1996; Mattei, 2003; Kennedy, 2006) and to the widespread adoption of adversarial reforms in jurisdictions of inquisitorial tradition (Langer, 2014). Following the Italian reform of 1988, plea bargaining started to be considered a definitory element of the adversarial model, being adopted in the new codes of criminal procedure of Latin America first (Langer, 2007) and post-Socialist countries later (Goldbach et al., 2013).

Section 2.2. has also shown how in more recent years both plea bargaining and penal orders are simultaneously allowed in many jurisdictions, in a strive for efficiency that trumps over legal traditions (McEwan, 2011; Brants, 2018). At the same time, legal traditions still shape the content of legal reforms, for example by preventing the expansion of penal orders and plea bargaining respectively to adversarial jurisdictions and to Arab countries.

Section 2.3., after describing in detail the history of penal orders and their diffusion, has considered the variability in their legal design. In all jurisdictions, penal orders are only applicable to less serious crimes, and, in most cases, they cannot be used to impose custodial sentences. Section 2.3. also showed how penal orders result in final convictions according to two different models. In the opposition model, which is the first and most widespread one, penal orders become final if they are not opposed by defendants within a limited time. In the consent model, penal orders become final only if defendants explicitly accept their content within a limited time. The extent of those time limits varies across both models, as well as the potential benefits accorded to defendants when penal orders are not opposed or accepted. A final variation in legal design concerns the thoroughness of judicial supervision over the procedure, and the authorities that can issue penal orders, ranging from judges to prosecutors to police officers.

Section 2.4. instead described the legal variation of plea-bargaining procedures, after describing their origins and processes of diffusion. The formalization of plea bargaining in jurisdictions of inquisitorial tradition involved some adjustments, that resulted in a translation rather than a transplant of the U.S. model (Langer, 2004). As a result, the regulation of plea-bargaining

procedures varies regarding their applicability, the extent to which the parties can negotiate the terms of the plea agreement, the role of defense lawyers and victims, and the extent of judicial intervention both during the negotiation phase and the review of the agreement. All those aspects were included in a cluster analysis in order to assign each jurisdiction that allow plea bargaining to one of three clusters, corresponding to a maximal, minimal, or intermediate level of regulation. The most regulated plea-bargaining procedures are adopted in jurisdictions of inquisitorial tradition, especially in Europe. Intermediate regulations are also associated with inquisitorial jurisdictions, but with those more influenced by the U.S. model or with those characterized by a greater strive towards efficiency. A minimal regulation is instead typical of adversarial jurisdictions, but it is also adopted by inquisitorial jurisdictions, in some cases as a result of direct U.S. intervention during the adoption of plea bargaining.

Section 2.5. reported administratization rates in 60 jurisdictions in 2022, or the most recent years for which data are available. On the model of Langer (2021), the administratization rate corresponds to the percentage of criminal convictions imposed through plea bargaining or penal orders over the total number of criminal convictions imposed in a given jurisdiction and year. This information should capture the importance of plea bargaining and penal orders for the functioning of contemporary criminal justice systems. Section 2.5. showed that in 40 of the 60 jurisdictions considered (67% of the sample) the majority of criminal convictions were imposed either through plea bargaining or penal orders in 2022. In 26 jurisdictions (43% of the sample), administratization methods even accounted for over 70% of all convictions, while in 12 of them (20% of the sample) the figure was above 90%. For 35 jurisdictions it was also possible to compute administratization rates for each year during the period 2015-2022, thus allowing the description of time trends. Overall, administratization rates seemed stable, with percentual variations below 15% in 27 of the 34 jurisdictions considered. An exceptional increase of administratization rate was observed in Latvia (+230%), while penal orders rates increased by more than 72% in the Netherlands. Conversely, plea bargaining rates decreased by 44% in Russia and by 69% in Moldova.

Future research might explore the reasons for the exceptional variations described above. The next chapter will instead address the lack of cross-country empirical research regarding the adoption and use in practice of plea bargaining (Langer, 2021).

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Appendix A Jurisdictions

A.1. Jurisdictions covered (N = 174)

Albania, Algeria, Andorra, Angola, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Central African Republic, Chad, Chile, China, Colombia, Congo, Costa Rica, Cote d'Ivoire, Croatia, Cuba, Cyprus, Czech Republic, Democratic Republic of the Congo, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, England and Wales, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guyana, Gabon, Gambia, Georgia, Germany, Ghana, Greece, Guatemala, Guinea, Guinea Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Iran, Iraq, Ireland, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kosovo, Kuwait, Kyrgyzstan, Latvia, Lebanon, Lesotho, Liberia, Libya, Lithuania, Luxembourg, Madagascar, Malawi, Malaysia, Maldives, Mali, Macao, Malta, Mauritania, Mauritius, Mexico, Moldova, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Myanmar, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, North Macedonia, Northern Ireland, Norway, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Romania, Russia, Rwanda, San Marino, Saudi Arabia, Scotland, Senegal, Serbia, Sierra Leone, Singapore, Slovakia, Slovenia, Solomon Islands, South Africa, South Korea, South Sudan, Spain, Sri Lanka, Sudan, Suriname, Sweden, Switzerland, Syria, Taiwan, Tajikistan, Tanzania, Thailand, Timor-Leste, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Uganda, Ukraine, United Arab Emirates, United States, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zambia, Zimbabwe.

A.2. Jurisdictions from where survey answers were collected (N = 77)

Albania, Argentina, Australia, Austria, Azerbaijan, Bahrain, Bangladesh, Belgium, Bolivia, Brazil, Cameroon, Chile, China, Colombia, Croatia, Cyprus, Czech Republic, Ecuador, Egypt, El Salvador, Eritrea, Estonia, Ethiopia, Fiji, France, Georgia, Germany, Ghana, Greece, Haiti, Hong Kong, Hungary, India, Indonesia, Iran, Iraq, Japan, Jordan, Kazakhstan, Kosovo, Kuwait, Kyrgyzstan, Maldives, Malta, Mauritius, Mexico, Moldova, Morocco, Myanmar, Nepal, Nicaragua, North Macedonia, Norway, Pakistan, Peru, Philippines, Poland, Portugal, Romania, Russia, Scotland, Serbia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Switzerland, Taiwan, Thailand, Tunisia, Turkey, Uganda, Vietnam, Yemen, Zimbabwe.

A.3. Jurisdictions with administratization procedures

Jurisdiction	Type of procedure	Name	Year and act of first regulation	Regulation level of PB	Sources of data for rates
Albania	PB	Judgement upon agreement (Gjykimi me marrëveshje)	2017 Act 35/2017 amending Code of Criminal Procedure	Maximal	NA
	PO	Urdhrit penal (Penal order)		NAP	
Algeria	PO	Penal order الأمر الجزائي	2015 Act No. 15-02 amending Code of Criminal Procedure	NAP	NA
Andorra	PO	Penal order (Ordenança penal)	1989 Decree 3 of 27 Februrary 1989 promulgating Code of Criminal Procedure	NAP	NA
Argentina	PB	Abbreviated judgement (Juicio abreviado)	1997 Act 24.825 of 1997 amending Code of Criminal Procedure	Minimal	Poderes judiciales - Actos procesales de causas penales
Armenia	PB	Consent procedure (ՀԱՄԱՁԱՅՆԵՑՄԱՆ ՎԱՐՈՒՅԹԸ)	2021 Code of Criminal Procedure, approved on 27/07/2021 (into force since 2022)	Maximal	NA
Australia	PB	Plea negotiations or Plea bargaining	1996 Maxwell v The Queen - [1996] HCA 46	Minimal	CDPP Prosecution Statistics (yearly publication)
Austria	PO	Mandate procedure (Mandatsverfahren)	1873 Code of Criminal Procedure of 1873	NAP	Bundesministerium Justiz, data provided upon request
Bahamas	PB	Plea Agreements	2008 Act 32/2008, Criminal Procedure (Plea Discussion and Plea Agreement) Act	Minimal	NA
Bahrain	PO	Criminal order الأمر الجنائي	2002 Act 46/2002 approving Code of Criminal Procedure	NAP	NA

Belgium	PB	Prior admission of guilt (Reconnaissance préalable de culpabilité)	2016 Act of 5 February 2016 modifying Criminal Law and Criminal Procedure	Maximal	NA
Belize	PB	Plea of guilty to different charge	1998 Indictable Procedure Act 18 of 1998	Minimal	NA
Bhutan	PB	Plea bargain	2001 The Civil and Criminal Procedure Code of Bhutan, 2001	Minimal	NA
Bolivia	PB	Abbreviated procedure (Procediemiento abreviado)	1999 Act 1970/1999 approving Code of Criminal Procedure (into force since 2000)	Medium	Consejo de la Magistratura - Anuario Estadístico Judicial (yearly publication)
Bosnia and Herzegovina	PB	Plea bargaining (Pregovaranje o krivnji)	2003 Act 3/2003 approving Code of Criminal Procedure	Medium	Institute for Statistics of FBiH - Statistika pravosuđa (yearly publication)
	PO	Kaznenog naloga (Penal order)		NAP	NA
Bulgaria	PB	Settlement of the case by agreement (Решаване На Делото Със Споразумение)	2000 Code of Criminal Procedure, 2000	Minimal	National Statistical Institute of Bulgaria, data provided upon request
Burundi	PB	Guilty plea procedure (Procédure d'aveu et de plaidoyer de culpabilité)	2018 Act n.1/09 of 2018 modifying the Code of Criminal Procedure	Medium	NA
Canada	PB	Guilty plea procedure / Pladoyer de culpabilité	1995 R. v. Burlingham, [1995] 2 S.C.R. 206	Minimal	Offence Based Statistics, All Criminal Cases, Ontario Court of Justice (yearly publication)
Chile	PB	Simplified procedure (Procedimiento simplificado)	2000 Act 19696 of 2000 approving Code of Criminal Procedure	Minimal	Data provided upon request by Fiscalia Nacional
		Abbreviated procedure			

		(Procedimiento abreviado)			
	PO	Procedimiento monitorio (Payment order procedure)		NAP	
China	PB	Leniency System for Pleas of Guilty and Punishment 认罪认罚从宽制度	2018 Amendment to Code of Criminal Procedure on 26/10/2018	Minimal	China Court Network, at https://www.chinacourt.org/article/detail/2022/10/id/6956970.shtml
Colombia	PB	Pre-trial agreements and negotiations (Preacuerdos y negociaciones)	1991 Decree 2700/1991	Minimal	Tablero de Control de las Estadistícas de Gestión Judicial
Costa Rica	PB	Abbreviated procedure (Procediemiento abreviado)	1996 Act 7594/1996 approving Code of Criminal Procedure	Medium	Anuarios Aprobados por Consejo Superior - Penal Tribunales (yearly publication)
Cote d'Ivoire	PB	Appearence upon prior admission of guilt (Comparution sur reconnaissance préalable de culpabilité)	2018 Act 2018-975 approving Code of Criminal Procedure	Maximal	NA
Croatia	PB	Judgment based on agreement of the parties (Presuda na temelju sporazuma stranaka)	2002 Act 58/2002 approving Code of Criminal Procedure	Medium	Croatian Bureau of Statistics - Criminal Justice and Social Protection (yearly publication)
	PO	Kaznenog naloga (Penal order)	Act 27/1998 amending Code of Criminal Procedure of 1997	NAP	
Cuba	PB	Abbreviated procedure (Procediemiento abreviado)	1994 Act 151/1994 amending Code of Criminal Procedure	Maximal	NA
Czech Republic	PB	Agreement on guilt and punishment (Dohoda o vině a trestu)	2012 Act 193/2012 amending Code of Criminal Procedure	Maximal	Department of judicial analysis and statistics - Ministry of justice of the Czech Republic, data provided upon request
	PO	Penal order (Trestní příkaz)	1973 Act 48/1973 amending and supplementing Criminal Code	NAP	

Dominican Republic	PB	Abbreviated criminal trial (Procediemiento penal abreviado)	2007 Code of Criminal Procedure 2007	Minimal	Oficina de Acceso a la Información Pública - Consejo del Poder Judicial, data provided upon request
Ecuador	PB	Abbreviated trial (Procediemiento abreviado)	2000 Act 360/2000 approving Code of Criminal Procedure	Maximal	NA
Egypt	PO	Penal orders االمر الجنائي	1950 Criminal Procedure Code 150 of 1950	NAP	NA
El Salvador	PB	Abbreviated criminal trial (Procediemiento penal abreviado)	1996 Act 904/1996 approving Code of Criminal Procedure (into force since 1998)	Medium	Dirección de Planificación Institucional Unidad de Información y Estadística - Movimiento Ocurrido en las Instancias Con Competencia Penal Adulto (yearly publication)
England and Wales	PB	Guilty plea agreements	2005 R v Goodyear [2005] EWCA Crim 888	Minimal	Criminal Justice System Statistics publication: Crown Court 2010 to 2022: Pivot Table Analytical Tool for England and Wales Magistrates' court 2010 to 2022: Pivot Table Analytical Tool for England and Wales
Equatorial Guinea	PB	Conformity [with the prosecutor's case] (Conformidad)	1967 Adoption of Spanish Criminal Procedure Law after independence	Maximal	NA
Estonia	PB	Arrangement procedure	2003	Maximal	

		(Kokkuleppemenetlus)	Code of Criminal Procedure 2003		Esimese ja teise astme kohtute menetlusstatistika aasta koondandmed (yearly publication)
	PO	Order procedure (Käskmenetlus)		NAP	
Fiji	PB	Plea agreement	2009 Criminal Procedure Act 2009	Minimal	NA
Finland	PB	Confession proceeding (Tunnustamisoikeudenkäynti)	2014 Act 22.8.2014/670 amending the law on trial in criminal cases (into force since 2015)	Maximal	Institute of Criminology and Legal Policy - University of Helsinki, data provided upon request
	PO	Penalty payment order (Rikesakkomääräyksellä)	1983 Act 21.1.1983/66 on the misdemeanor fine procedure	NAP	Statistics Finland - Prosecutions, sentences and punishments: Persons sentenced in court, summary penal fines and petty fines
		Penal order (Rangaistusmääräyksellä)	1993 Act 26.7.1993/692 on the penal order procedure		
		Fine order (Sakkomääräyksellä)			
France	PB	Appearance on prior admission of guilt (Comparution sur reconnaissance préalable de culpabilité, CRPC)	2004 Act 2004-204 amending Code of Criminal Procedure	Maximal	Les Condemnations (yearly publication)
	PO	Penal order (Ordonnance pénale)	1972 Act n. 72-5 of 3 January 1972 directed at simplifying the applicable procedure in case of misdemeanors	NAP	
French Guyana	PB	Appearance on prior admission of guilt (Comparution sur reconnaissance préalable de culpabilité, CRPC)	2004 Act 2004-204 amending Code of Criminal Procedure	Maximal	Les Condemnations (yearly publication)
	PO	Penal order (Ordonnance pénale)	1972 Act n. 72-5 of 3 January 1972 directed at simplifying the applicable procedure in case of misdemeanors	NAP	

Gabon	PB	Appearence upon prior admission of guilt (Comparution sur reconnaissance préalable de culpabilité)	2018 Law 43/2018 approving Code of Criminal Procedure (into force since 2019)	Maximal	NA
Georgia	PB	Plea agreement (საპროცესო შეთანხმება)	2004 Act 214/2004 amending Code of Criminal Procedure	Minimal	IDFI Judicial Statistics - Criminal Cases Heard by Delivering Judgment
Germany	PB	Negotiated agreement (Verständigung)	2009 Act 49/2009 amending Code of Criminal Procedure	Maximal	Destatis - Rechtspflege, Strafgerichte (yearly publication)
	PO	Penal order procedure (Strafbefehlsverfahren)	1846 Prussian procedural law of 17 July 1846	NAP	
Ghana	PB	Plea bargaining	2022 Act 1079/2022	Minimal	NA
Greece	PB	Criminal bargaining (Ποινική διαπραγμάτευση)	2019 Act 4620/2019 approving Code of Criminal Procedure	Medium	NA
	PO	Penal order for misdemeanors (Ποινική διαταγή επί πλημμελημάτων)		NAP	
Guatemala	PB	Abbreviated trial (Procediemiento abreviado)	1992 Act 51/1992 approving Code of Criminal Procedure	Maximal	Ministerio Público - Informe Anual (yearly publication)
Guyana	PB	Plea agreement	2008 Act 18/2008 (into force since 2009)	Maximal	NA
Honduras	PB	Abbreviated trial (Procediemiento abreviado)	1999 Act 9/1999 approving Code of Criminal Procedure	Minimal	Poder Judicial de Honduras - Boletín Estadístico (yearly publication)
Hong Kong	PB	Plea Negotiation and Agreement	2013 Prosecution Code, 2013	Minimal	NA
Hungary	PB	Settlement (egyezség) Measured proposal (mértékes indítvány)	2000 Hungarian Criminal Procedure Act of 1 March 2000	Medium	Prosecutor General's Report on Activities of the

	PO	Procedure for issuing a penal order (Büntetővégzés meghozatalára irányuló eljárás) [Kown as "Avoidance of trial" (Tárgyalás mellőzése) until the 2017 reform of criminal procedure]	1896 Act XXXIII of 1896 promulgating Code of Criminal Procedure (into force since 1900)	NAP	Prosecution Service (yearly publication)
India	PB	Plea bargaining	2005 Criminal Law (Amendment) Act, 2005	Minimal	National Crime Records Bureau - Crime in India, Statistics Volume III (yearly publication)
Iraq	PO	Penal order الألمر الجزائي	1971 Act 23 of 1971 issuing Code of Criminal Procedure	NAP	NA
Ireland	PB	Sentence discount in case of guilty plea	2001 (DPP) v Heeney [2001] 1 IR 736	Minimal	Courts Service - Annual Report (yearly publication)
Israel	PB	Plea bargain (הסדר טיעון)	1972 Bahmoutzki (1972) 26(i) P.D. 543	Minimal	Department of Justice, data provided upon request
Italy	PB	Plea bargaining (Patteggiamento), formally Application of sentence upon parties' request (Applicazione della pena su richiesta delle parti)	1988 Act 447/1988 approving Code of Criminal Procedure (into force since 1989)	Maximal	DDSC – DG Statistica e analisi organizzativa Statistica, data provided upon request
	PO	Criminal conviction order (Decreto penale di condanna)	1909 Royal decree n. 37 of 5 February 1909	NAP	
Jamaica	PB	Plea Negotiations and Agreements	2006 Plea Negotiations and Agreements Act (2006)	Minimal	Parish Courts of Jamaica - The Chief Justice's Annual Statistics, Criminal matters (yearly publication)
Japan	PO	Summary order	1885	NAP	Ministry of Justice - White Paper on

		略式命令	Rules for dealing summarily with contraventions (Dajōkan decree no. 31 of the year 1885)		Crime (yearly publication)
Jordan	PO	Summary order ألصول الموجزة	1961 Act 1539 of 16 March 1961 issuing Code of Criminal Procedure	NAP	NA
Kazakhstan	PB	Procedural agreement in the form of a plea bargaining (Кінәні мойындау туралы мәміле нысанында процестік келісімді)	2014 Act 231-V of 2014 approving Code of Criminal Procedure	Medium	NA
	PO	Penal order procedure (Бұйрықтық іс жүргізу тәртібі)		NAP	
Kenya	PB	Plea agreeement	2008 Act 11 of 2008	Minimal	NA
Kosovo	PB	Plea agreement (Negocimi i marrëveshjes mbi pranimin e fajësisë)	2008 Act 04/L-123 of 2008 approving Code of Criminal Procedure	Medium	NA
Kuwait	PO	Penal order ألمر الجزائي	1960 Act 17/1960 promulgating Code of Criminal Procedure and Trials	NAP	NA
Kyrgyzstan	PB	Plea agreement (Күнөөнү мойнуна алуу жөнүндө процессуалдык макулдашуу)	2017 Act 20/2017 approving Code of Criminal Procedure (into force since 2019)	Minimal	NA
Latvia	PB	Pretrial agreement (Vienošanās piemērošana pirmstiesas kriminālprocesā)	2004 Law of 19 February 2004 amending the Code of Criminal Procedure	Medium	Latvijas Republikas Ģenerālprokuratora - Ziņojums Par Gadā Paveikto Un Gada Darbības Prioritātēm (yearly publication)
		Agreement during court proceedings (Vienošanos iztiesāšanas procesā)			
	PO	Accepting a prosecutor's order for a penalty (Piemerojot prokurora priekšrakstu par sodu)		NAP	
Lebanon	PO	Summary order ألصول الموجزة	1948	NAP	NA

			Code of Criminal Procedure 1948		
Lesotho	PB	Plea bargaining	1988 Rex v. Theese Phooko, Criminal Case No. 278 of 1988	Minimal	NA
Lithuania	PO	Court criminal order (Teismo Baudžiamojo Įsakymo Priėmimo Procesas)	2002 Criminal Procedure Code No. IX-785of March 14, 2002	NAP	The Report on the Hearing of Criminal Cases, Trial at the 1st Instance Courts (yearly publication)
Libya	PO	Criminal order الأمر الجنائي	1953 Code of Criminal Procedure 1953	NAP	NA
Luxembourg	PB	Judgement upon agreement (Jugement sur accord)	2015 Law of 24 February 2015 amending the Code of Criminal Procedure	Maximal	La Justice en Chiffres (yearly publication)
	PO	Penal order (Ordonnance pénale)	1924 Law of 31 July 1924 regarding the organization of penal orders	NAP	
Macao	PO	Especially summary procedure (Processo sumaríssimo)	1996 Decree-Law No. 48/96/M approving Code of Criminal Procedure (into force since 1997)	NAP	NA
Malawi	PB	Plea bargaining	2010 Act 14 of 2010	Minimal	NA
Malaysia	PB	Plea bargaining	2010 Criminal Procedure Code (Amendment) Act 2010	Minimal	NA
Maldives	PB	(އިޢުތިރާފުގެ އެއްބަސްވުން) Confession agreement	2014 Act 9/2014	Minimal	NA
Malta	PB	Sentence at the request of the parties	2002 Act III of 2002 amending the Code of Criminal Procedure	Medium	NA
Mexico	PB	Abbreviated trial (Procediemiento abreviado)	2008	Medium	INEGI - Censo Nacional de

			Reform of 19 June 2008		Impartición de Justicia Estatal, Impartición de justicia en materia penal (yearly publication)
Moldova	PB	Acknowledgement of guilt (Recunoasterea vinovatiei)	2003 Act 122/2003 approving Code of Criminal Procedure	Medium	National Bureau of Statistics of the Republic of Moldova, Dissemination and Communication Division, data provided upon request
Mongolia	PB	Simplified procedure (Хялбаршуулсан Журмаар)	2015 Code of Criminal Procedure, 2015	Medium	NA
Montenegro	PB	Plea agreement (Sporazum o priznanju krivice)	2009 Act 57/09 approving Code of Criminal Procedure	Maximal	NA
	PO	Proceedings for the pronouncement of criminal sanctions without the main hearing (Postupak za izricanje krivične sankcije bez glavnog pretresa)	2003 Criminal Procedure Code 2003, Official Gazette of the Republic of Montenegro, n. 71/03 (into force since 2004)	NAP	
Morocco	PO	Judicial order االمر القضائي	1959 Act n. 1-58-261 of 10 February 1959 issuing Code of Criminal Procedure	NAP	NA
Mozambique	PO	Especially summary procedure (Processo sumaríssimo)	2019 Act 25/2019 approving Code of Criminal Procedure	NAP	NA
Nepal	PB	Plea agreement	2017 Act 37/2017 approving Code of Criminal Procedure	Medium	NA
Netherlands	PO	Penal order (Strafbeschikking)	2006 Act 2006, 330 amending the Code of Criminal	NAP	WODC, CBS, Raad voor de rechtspraak - Criminaliteiten

			Procedure (into force since 2007)		rechtshandhaving
New Zealand	PB	Sentence indications	2011 Criminal Procedure Act 2011	Minimal	Ministry of Justice, data provided upon request
Nicaragua	PB	Agreements (Acuerdos)	2001 Act 406/2001 approving Code of Criminal Procedure	Minimal	NA
Niger	PB	Appearence upon prior admission of guilt (Comparution sur reconnaissance préalable de culpabilité)	2007 Act 2007-04 of 22 February 2007	Maximal	NA
Nigeria	PB	Plea agreement	2015 Administration of Criminal Justice Act 2015	Maximal	NA
North Macedonia	PB	Entering judgement based on settlement (Донесување на пресуда врз основа на спогодба)	2010 Act 150/2010 approving Code of Criminal Procedure	Medium	State Statistical Office - Accused adult perpetrators by criminal offences, type of decision and sex, by year
	PO	Penal order (казнен налог) [Known as "Rendering a Judgment without Holding a Main Hearing" before the 2010 reform of criminal procedure]	2004 Criminal Procedure Code 2004, Official Gazette n. 74/2004	NAP	
Northern Ireland	PB	Reduction in sentence for guilty pleas	1994 R v. Connolly [1994] NIJB 226	Minimal	Court and Tribunals Service - Judicial Statistics (yearly publication)
Norway	PO	Submission (Forelegg)	1890 Criminal Procedure Law of 1890	NAP	Statistics Norway - Straffereaksjoner
		Simplified submission (Forenklet foreleg)	1968 Act 21 June 1968 No. 5, amending the Road Traffic Act		
Oman	PO	Penal order الأوامر اجلزائية	1999 Royal Decree No. 97/99 approving Code of Criminal Procedure	NAP	NA

Panama	PB	Sentence agreements (Acuerdos de Pena)	2008 Act 63/2008 approving Code of Criminal Procedure	Medium	Dirección Administrativa de Estadísticas Judiciales, data provided upon request
Papua New Guinea	PB	Plea bargaining	2006 Prosecution Policy, 2006	Minimal	NA
Paraguay	PB	Abbreviated trial (Procediemiento abreviado)	1998 Act 1286/1998 approving Code of Criminal Procedure	Medium	E-mail from Dirección de Transparencia y Acceso a la Información Pública - Corte Suprema de Justicia, on 07.02.2023
Peru	PB	Early termination process (Proceso de terminación anticipada)	2004 Act 957/2004 approving Code of Criminal Procedure (into force since 2006)	Maximal	NA
Philippines	PB	Plea to a lesser offense or Plea bargaining	1940 1940 Rules of Courts	Minimal	NA
Poland	PB	Sentence without trial (Skazanie bez rozprawy)	1997 Act 89 of 6 June 1997 approving Code of Criminal Procedure	Medium	Departament Strategii i Funduszy Europejskich - Wydział Statystycznej Informacji Zarządczej, data provided upon request
		Voluntary surrender of sentence (Dobrowolne poddanie się karze)			
	PO	Injunction proceedings (Postępowanie nakazowe)	1928 Code of Criminal Procedure of 19 March 1928	NAP	
Portugal	PO	Especially summary procedure (Processo sumaríssimo)	1987 Decreto-lei 78/87 of 17 February 1987	NAP	Direcção-Geral da Política de Justiça - Divisão de Estatísticas da Justiça, data provided upon request
Qatar	PO	Criminal order الأمر الجنائي	1971 Act 15/1971 issuing Code of Criminal Procedure	NAP	NA

Romania	PB	Agreement upon acknowledgement of guilt (Acord de recunoaștere a vinovăției)	2010 Act 135/2010 approving Code of Criminal Procedure	Medium	Ministerul Public – Parchetul de pe lângă Înalta Curte de Casaţie şi Justiţie, Biroul de informare şi relaţii publice, data provided upon request
Russia	PB	Special order of court proceeding (Особый порядок судебного разбирательства)	2001 Act 147-FZ of 18/12/2001 approving Code of Criminal Procedure	Minimal	Report on the Work of the Courts of General Jurisdiction in Reviewing Criminal Cases in the First Instance (yearly publication, in Russian)
Rwanda	PB	Plea bargaining	2019 Law 27/2019 and Practice Directions of the President of the Supreme Court 2/2023	Minimal	NA
San Marino	PB	Plea bargaining (Patteggiamento)	2022 Act 24/2022 amending Code of Criminal Procedure	Maximal	NA
	PO	Penal order (Decreto penale)	1919 Law n. 35 of 9 September 1919, establishing the penal order	NAP	
Scotland	PB	Sentence discounting	1995 Criminal Procedure (Scotland) Act 1995	Minimal	Scottish Government - Statistics on guilty pleas and criminal charges that proceeded to court: FOI release Scottish Government - Criminal proceedings in Scotland

					(yearly publication)
Serbia	PB	Plea agreement (Sporazum o priznanju krivičnog dela)	2009 Act 72/2009 approving Code of Criminal Procedure	Minimal	Republic PPO, the Offical Report published on rjt.gov.rs (yearly publication, in Serbian)
	PO	Hearing for the imposition of a criminal sanction (Ročište za izricanje krivične sankcije)	2001 Criminal Procedure Code of the Republic of Serbia, "Sl. list SRJ", br. 70/2001	NAP	
Singapore	PB	Plea agreement	2011 Creation of Criminal Case Resolution (CCR) program on October 10, 2011	Minimal	NA
Slovakia	PB	Plea agreement (Dohoda o vine a treste)	2005 Act 301/2005 approving Code of Criminal Procedure (into force since 2006)	Minimal	Ministerstvo spravodlivosti - Odbor dátových analýz a rezortnej štatistiky, data provided upon request
	PO	Penal order (Trestný rozkaz)	1973 Act 48/1973 amending and supplementing Criminal Code	NAP	
Slovenia	PB	Plea agreement (Sporazum o priznanju krivde)	2011 Act 91/2011 amending Code of Criminal Procedure (into force since 2012)	Minimal	Supreme Court of the Republic of Slovenia - Office for Court Management Development, data provided upon request
	PO	Punitive order (Kaznovalnega naloga)	2003 Act 56/2003 amending Code of Criminal Procedure	NAP	
Solomon Islands	PB	Plea to a lesser offense or Plea bargaining	2009 Prosecution Policy, 2009	Minimal	NA
South Africa	PB	Plea and sentence agreements	2001 Act 62/2001 amending Criminal Procedure Act	Minimal	National Prosecuting Authority - Annual Report (yearly publication)
	PO	Admission of guilt fine [Known as “Payment of fine without appearance in court” until 1977]	1955 Act n. 56 of 1st July 1955 issuing	NAP	NA

			Criminal Procedure Act		
South Korea	PO	Summary Judgment 약식재판	1954 Act No. 341 of 23 September 1954 approving Code of Criminal Procedure	NAP	Crime and Criminal Justice Statistics (CCJS) - Judicial Yearbook, Courts source and material code, Criminal trial
Spain	PB	Acceptance of charges (Conformidad)	1882 Royal Decree of 14 September 1882 approving Code of Criminal Procedure	Maximal	Base de datos de la Estadistica Judicial en PC AXIS, at https://www6.poderjudicial.es/PxWeb2023v1/pxweb/es
	PO	Procedure by accepting the order (Proceso por aceptación de decreto)	2015 Law 41/2015 of 5 October 2015 amending Code of Criminal Procedure	NAP	Estadística Judicial, data provided upon request
Sri Lanka	PB	Plea to a lesser offense or Plea deal	1995 Attorney General v Mendis [(1995) 1 Sri L.R 138]	Minimal	NA
Sweden	PO	Penal order (Strafföreläggande) Imposition of a fine (Föreläggande av ordningsbot)	1942 Code of Judicial Procedure (Rättegångsbalken, 1942:740)	NAP	Sveriges officiella statistik - Lagföringsbeslut efter lagföringstyp
Switzerland	PB	Abbreviated procedure (Procédure simplifiée Procedura abbreviata Abgekürztes Verfahren)	2007 Swiss Code of Criminal Procedure of 5 October 2007	Maximal	Repubblica e Cantone Ticino - Rapporto della magistratura (yearly publication)
	PO	Penal order procedure (Ordonnance pénale, Procedura del decreto d'accusa, Strafbefehlsverfahren)	1868 Law on the discipline of the Police of Canton Aargau of 19 February 1868	NAP	Federal Statistical Office (FSO), Section Crime and Criminal Justice - Adults: convictions for a misdemeanor or felony,

					depending on the type of procedure (yearly publication)
Syria	PO	Summary order ألصول الموجزة	1950 Legislative Decree 112/1950 issuing Code of Criminal Procedure	NAP	NA
Taiwan	PB	The bargaining process 協商程序	2004 President Hua Zongyizi's order of 7 April 2004	Maximal	Judicial Yearbook - Results of Judgments and Rulings of Criminal First Instance Plea Bargaining Procedure Cases Rendered by the District Courts (yearly publication)
	PO	Summary procedure without trial 簡易判決流程	1935 Implementation Rules of the Code of Criminal Procedure of 1st April 1935	NAP	Judicial Yearbook - Results of Judgments and Rulings of Criminal Simple Cases of the First Instance Rendered by the District Courts – by Organ (yearly publication)
Tanzania	PB	Plea bargaining	2021 The Criminal Procedure (Plea Bargaining Agreement) Rules, 2021	Minimal	NA
Tonga	PB	Plea to a lesser offense or Plea bargaining	2001 Act 17/2001, amending Criminal Offences Act	Minimal	NA
Trinidad and Tobago	PB	Plea agreement	2017 Act 12/2017	Minimal	NA
Turkey	PB	Expedited procedure (Seri muhakeme usulü)	2019 Act 7188 of 17 October 2019 amending Code of	Medium	NA
	PO	Simple trial procedure		NAP	

		(Basit yargılama usulü)	Criminal Procedure (into force since 2020)		
Uganda	PB	Plea bargaining	2016 The Judicature (Plea Bargain) Rules, 2016	Minimal	Uganda Police - Annual Crime Report (yearly publication) & The Judiciary of Uganda - Annual Performance Report (yearly publication)
Ukraine	PB	Plea agreement between the prosecutor and the suspect or accused (угода між прокурором та підозрюваним чи обвинуваченим про визнання винуватості)	2012 Law 4651-VI of 13 April 2012 approving Code of Criminal Procedure	Maximal	General indicators of court proceedings by the court of first instance (yearly publication, in Ukrainian)
United Arab Emirates	PB	Criminal settlement التسوية الجزائية	2022 Federal Decree-Law No. 38 of 2022 approving Code of Criminal Procedure (into force since 2023)	Maximal	NA
	PO	Penal order الأمر الجزائي	2017 Dubai Law No. 1 of 2017; Dubai Resolution No. 88 of 2017	NAP	
United States of America	PB	Plea bargaining	1970 Brady v. United States, 397 U.S. 742 (1970)	Minimal	U.S. Department of Justice - Federal Justice Statistics
Uruguay	PB	Abbreviated trial (Procediemiento abreviado)	2017 Code of Criminal Procedure 2017 N° 19293	Medium	Suprema Corte de Justicia - Procesos Penales, Estudio sobre procesos concluidos en los Juzgados Letrados con competencia en materia CPP 2017 (yearly publication)

Uzbekistan	PB	Plea agreement (Aybga iqrorlik to‘g‘risidagi kelishuv)	2020 Act No. UP-6041 of 10 August 2020 (into force since 2021)	Maximal	NA
Vanuatu	PB	Charge negotiation	2018 Prosecution Guidelines, 2018	Minimal	NA
Venezuela	PB	Guilty plea procedure (Procedimiento por admisión de los hechos)	1998 Act 5208 of 23 January 1998 approving Code of Criminal Procedure (into force since 1999)	Maximal	NA
Zambia	PB	Plea agreement	2010 Act 20/2010, Plea Negotiations and Agreements Act	Minimal	NA

Appendix B Cluster analysis

B.1. Variables included in the cluster analysis

Variable	Question answered	Type	Value	Coding
limit_sentence	Is PB excluded for crimes punished with sentences over a certain threshold?	dummy	0	No
			1	Yes
limit_crime	Is PB excluded for certain categories of crimes e.g. mafia, terrorism etc.?	dummy	0	No
			1	Yes
limit_criminal	Is PB excluded for certain categories of defendants e.g. recidivists, juveniles etc.?	dummy	0	No
			1	Yes
charge_pb	Is bargaining on charges admitted?	dummy	0	No
			1	Yes
fact_pb	Is bargaining on facts admitted?	dummy	0	No
			1	Yes
sent_size_pb	Is bargaining on sentence size admitted?	dummy	0	No
			1	Yes
sent_categ_pb	Is bargaining on sentence type admitted?	dummy	0	No
			1	Yes
min_sent_disc	Is a minimum sentence discount provided by law in case of PB?	dummy	0	No
			1	Yes
max_sent_disc	Is a maximum sentence discount provided by law in case of PB?	dummy	0	No
			1	Yes
jud_interv	Does the judge intervene during the bargaining phase?	categorical	0	No
			1	Yes
			0,5	Yes, but only in some cases

jud_review_aspects_sum	How many aspects are object of judicial review besides the standard ones (PB was voluntary, knowing, with understanding of consequences, within the limits established by law)? Possible considered aspects: Charges are appropriate; Sentence is appropriate; Trial would be preferable for reasons of public interest; Other aspects e.g. damages awarded are appropriate.	continuous	0-4	Number of additional aspects considered by the judge.
jud_decision_sum	How many decisions can the judge take, besides convicting the defendant and sentencing him according to the agreement or rejecting the agreement if conditions are not met? Possible decisions: Acquit the defendant; Ask the parties to negotiate a different agreement; Impose a sentence different from the one object of agreement; Modify some aspects of the agreement, with the consent of the parties.	continuous	0-4	Number of additional decisions that the judge can take.
lawyer_mand_pb	Is there a non-waivable right to a lawyer either at the beginning of the negotiations or for concluding a PB agreement?	categorical	0	No
			1	Yes
			0,5	Yes, but only in some cases
lawyer_mand_pb_binary	Is there a non-waivable right to a lawyer either at the beginning of the negotiations or for concluding a PB agreement?	dummy	0	No
			1	Yes
victim_veto	Do victims have the right to veto a PB agreement?	categorical	0	No
			1	Yes
			0,5	Yes, but only in some cases
victim_veto_binary	Do victims have the right to veto a PB agreement?	dummy	0	No
			1	Yes

B.2. Clustering options adopted

The clustering adopted in the final analysis results from the output of the following clustering options:

a) considering only the possibility of charge bargaining among the negotiation possibilities, as the most important defining feature of plea-bargaining regimes in this respect;

b) not considering the role of the defense lawyer and of the victim;

c) transforming the variables describing the role of defense lawyers and victims from continuous into binary;

d) creating 4 and 5 clusters instead of 3, in order to better understand the position of a given jurisdiction in the spectrum from a minimal to a maximal regulation of the procedure. This latter option was tested since certain jurisdictions switched position across clusters based on whether certain variables were considered or excluded.

Appendix C Text of the survey

I. Introductory text

Dear Reader,

The present questionnaire aims at gathering information about:

(a) the legal design of plea-bargaining procedures in different jurisdictions;

(b) institutional features of the criminal justice systems they belong to.

Since many different procedures can be considered plea bargaining, please apply the following definition when answering the questions: "Plea bargaining is an institution of criminal procedure, which allows the criminal conviction of a defendant, who explicitly accepts to plead guilty or to otherwise waive his right to trial, in exchange for some benefits from the prosecutor or the judge".

Thus, even if they have some traits in common with plea bargaining, the following mechanisms are excluded from the relevant definition: a) simplified trials; b) penal orders; c) diversion mechanisms.

The maximum estimated time for completing the questionnaire is between 40 minutes and 1 hour.
If you want to be adjourned about the progress of the present research, please contact gabriele.paolini@edle-phd.eu
Thank you very much for your help.

Best regards,

Gabriele Paolini

Elena Kantorowicz-Reznichenko

Stefan Voigt

II. Anonimity and credits options

Do you want to be credited as a contributor to the present research project?

1) Yes

0) No

If you want to be listed among contributors, please indicate your name and/or your affiliation.

1. Preliminary information

1.1 Country for which information is provided:

1.2. What is your main occupation?

1. Professor/researcher

2. Prosecutor

3. Judge

4. Lawyer

5. Government official

6. Other

1.3. If you indicated "other", please specify your occupation:

1.4. Does a formalized plea-bargaining procedure exist in your country?

A plea-bargaining procedure is formalized when it is regulated by statute, or a court decision has upheld its constitutionality and/or provided some regulation.

1) Yes

0) No

(Please, be aware that it is not possible to change the answer to this question later)

A. COUNTRIES WITHOUT A FORMALIZED PLEA-BARGAINING PROCEDURE

2. Practices and reforms

2.1. Has a formalized plea-bargaining procedure ever existed in your country?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

In which year was it introduced?

In which year was it abolished?

What were the reasons for the abolition?

2.2. Is there an intention to introduce a plea-bargaining procedure?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

In which year is it expected to come into force?

2.3. Has there been any attempt to introduce a formalized plea-bargaining procedure?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

For which reasons did the attempt fail?

2.4. Do informal plea negotiations take place today?

1) Yes

0) No

Can you please indicate one or more sources for the description of such practices?

3. Alternatives to plea bargaining

3.1. Penal orders

Can a prosecutor obtain a criminal conviction by recurring to a penal order?

With the term "penal order" we refer to the submission, in writing, of a suggested charge and punishment from the prosecutor to the defendant. If the defendant rejects the proposal within a limited period of time, their case will be decided by a judge. If instead he explicitly accepts the proposal or fail in opposing it before a deadline, the penal order will result in a criminal conviction.

1) Yes

0) No

What is the name of the penal order procedure in the legal language of your country?

What was the number of criminal proceedings dealt with the penal order procedure in 2019?

Can you please provide a link to the source of this information?

3.2. Simplified trials

Can a prosecutor obtain a criminal conviction by recurring to a simplified trial?

With the term "simplified trials" we refer to those procedures according to which a criminal case is adjudicated at the end of an abbreviated trial, resulting in a possible criminal conviction. During this kind of trials, the relevant evidence is only that gathered during the investigation phase, without the possibility of producing new evidence at trial.

1) Yes

0) No

What is the name of such simplified trial procedure in the legal language of your country?

What was the number of criminal proceedings dealt with the simplified trial procedure in 2019?

Can you please provide a link to the source of this information?

3.3. Conditional dismissals

Can a prosecutor terminate a criminal prosecution by recurring to a conditional dismissal?

With the term "conditional dismissals" we refer to the termination of a criminal prosecution, conditioned on the fulfillment of certain actions by the suspect, such as restitution of the profits of the crime, restoration of the victim etc. The conditions are set by the prosecutor, according to the law, and their imposition on the suspect does not constitute a criminal conviction.

1) Yes

0) No

What is the name of conditional dismissals in the legal language of your country?

What was the number of criminal proceedings dealt with conditional dismissals in 2019?

Can you please provide a link to the source of this information?

3.4. Other mechanisms

Can a prosecutor obtain a criminal conviction by recurring to other mechanisms, different from ordinary trials, simplified trials, penal orders, and plea bargaining?

1) Yes

0) No

What is the name of such other mechanism in the legal language of your country?

What was the number of criminal proceedings dealt with such other mechanisms in 2019?

Can you please provide a link to the source of this information?

Can you briefly describe such mechanisms?

4. Criminal convictions and criminal proceedings

4.1. What was the total number of criminal convictions imposed in 2019?

Can you please provide a link to the source of this information?

4.2. What was the total number of criminal proceedings concluded in 2019?

A criminal proceeding is concluded when a conviction, an acquittal, or any other kind of judicial decision terminates the proceeding itself.

Can you please provide a link to the source of this information?

5.1. Indication of other experts

If you did not know the answer to some questions, but you know someone who is willing and able to provide answers, please let us know.

5.2. General comments and corrections

You can correct previous answers or make any other comment down here.

B. COUNTRIES WITH A FORMALIZED PLEA-BARGAINING PROCEDURE

2. Year of formalization, source of regulation, and name

2.1. In which year was the plea-bargaining procedure formalized?

2.2. Can you indicate the source of regulation of the plea-bargaining procedure in your country? (E.g. Art. 444 of code of criminal procedure, sentence n. xxxx of the Constitutional Court etc.).

2.3. What is the name of the plea-bargaining procedure in the legal language of your country?

3. Informal plea-bargaining practices

3.1. Did informal plea negotiations take place in the years before the plea-bargaining procedure was regulated by law?

(*Please, be aware that it is not possible to change the answer to this question later*)

1) Yes

0) No

3.2. Can you please indicate one or more sources for the description of such practices?

3.3. Despite the formal regulation of plea bargaining, do informal plea negotiations still take place today?

With "informal negotiations" we refer to plea negotiations which take place in contrast with or beyond the limits set by the law.

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

3.4. Can you please indicate one or more sources for the description of such practices?

4. Reasons for formalization

Which of the following reasons were offered by the policy-makers to justify the formalization of the plea-bargaining procedure?

It is possible to tick more than one option.

1) Reducing judicial backlog

2) Saving judicial resources

3) Saving prosecutorial resources

4) Dealing more efficiently with minor crimes

5) Dealing more effectively with more complex cases (e.g. involving environmental crimes, white-collar crimes, organized crime etc.)

6) Enlarging the faculties of the defendant during the criminal process

7) Regulating a pre-existing informal practice

8) Other reasons

Can you please specify what other reasons were offered to justify the formalization of the plea-bargaining procedure?

5. Number of plea-bargaining procedures concluded

5.1. What was the number of criminal proceedings dealt with the plea-bargaining procedure in 2019?

Can you please provide a link to the source of this information?

5.2. Over the last 5 years, the number of plea-bargaining procedures concluded:

7) Increased by 20% or more

6) Increased between 10 and 19%

5) Increased between 1 and 9%

4) Remained stable

3) Decreased between 1 and 9%

2) Decreased between 10 and 19%

1) Decreased by 20% or more

Can you please provide a link to the source of this information?

6.1. Number of criminal convictions imposed

What was the total number of criminal convictions imposed in 2019?

Can you please provide a link to the source of this information?

6.2. Number of criminal proceedings concluded

What was the total number of criminal proceedings concluded in 2019?

A criminal proceeding is concluded when a conviction, an acquittal, or any other kind of judicial decision terminates the proceeding itself.

Can you please provide a link to the source of this information?

7. Plea-bargaining reforms

Was the plea-bargaining procedure reformed over the last 5 years?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

Can you briefly describe the content of the reform(s)?

8. Limits to the applicability of plea bargaining

8.1. Is the use of plea-bargaining excluded from cases involving crimes for which the law mandates a minimum punishment over a certain sentence severity threshold (e.g. crimes punishable with minimum 5 years imprisonment)?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

Can you please indicate those thresholds?

Can you please indicate where in the law this exclusion is provided?

8.2. Is the use of plea bargaining excluded for certain categories of crimes (e.g. sex crimes, corruption, crimes against children, terrorism, organized crime etc.) ?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

Can you please indicate those categories of crimes?

Can you please indicate where in the law this exclusion is provided?

8.3. Is the use of plea bargaining excluded for certain categories of criminals (e.g. recidivists or underage defendants)?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

Can you please indicate those categories of criminals?

Can you please indicate where in the law this exclusion is provided?

9. Benefits attainable through plea bargaining

9.1. During the plea-bargaining negotiations, are the parties allowed to bargain about:

An amendment of the charges?

1) Yes

0) No

A particular narration of the facts underlying the criminal prosecution?

1) Yes

0) No

A discount on the size of the sentence to be asked to the judge?

1) Yes

0) No

An amendment of the category (e.g. fine, prison sentence, suspended sentence etc.) of the sentence to be asked to the judge?

1) Yes

0) No

9.2. Is a minimum sentence discount statutorily provided in case of plea bargaining?

E.g. A reduction of at least ¼ of the sentence that would have been asked by the prosecutor in case of an ordinary trial.

1) Yes

0) No

Can you please indicate the size of such minimum sentence discount?

9.3. Is a maximum sentence discount statutorily provided in case of plea bargaining?

E.g. A reduction of at most 1/2 of the sentence that would have been asked by the prosecutor in case of an ordinary trial.

1) Yes

0) No

Can you please indicate the size of such maximum sentence discount?

9.4. What is the average sentence discount received by defendants through plea bargaining in practice?

Can you please provide one or more sources of such information?

9.5. The conviction obtained through plea bargaining can be used as proof:

In civil proceedings?

1) Yes

0) No

In administrative proceedings?

1) Yes

0) No

In disciplinary proceedings?

1) Yes

0) No

10. Right to appeal

Do defendants preserve their right to appeal the conviction that was concluded after plea bargaining?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

Is the right to appeal waivable during the plea negotiations?

1) Yes

0) No

In which cases the parties can appeal against a conviction imposed as the result of the plea-bargaining procedure?

(It is possible to tick more than one option)

5) In the same cases of a conviction imposed as the result of an ordinary trial

4) For violations of procedural aspects

3) For discrepancies between the sentence agreed upon and the sentence imposed by the judge

2) For the emergence or discovery of new facts

1) In other cases

Can you please briefly describe those other cases?

11. Timing, information, and initiative

11.1. Who may take the initiative for opening the plea-bargaining procedure?

(*It is possible to tick more than one option)*

1) The prosecutor

2) The Judge

3) The defendant

4) Others

Can you please specify which other subjects can initiate the plea-bargaining procedure?

11.2. At the outset of plea negotiations, have the defendants or their lawyer access to the prosecution file?

1) Yes

0) No

1.5) Partially

11.3. Can a plea agreement be concluded before the formal indictment is filed?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

Can the defendants or their lawyer access the prosecutor's file before the formal indictment is filed?

1) Yes

0) No

1.5) Partially

What was the number of plea agreements concluded before the formal indictment was filed in 2019?

Can you please provide a source for this information?

11.4. Can a plea agreement be concluded after an ordinary trial has been initiated? *(Please, be aware that it is not possible to change the answer to this question later)*

1) Yes

0) No

What was the number of plea agreements concluded after an ordinary trial had been initiated in 2019?

Can you please provide a source for this information?

11.5. Can a plea agreement be concluded before a court of second instance?

1) Yes

0) No

What was the number of plea agreements concluded before courts of second instance in 2019?

Can you please provide a source for this information?

12. Role of the judge

12.1. Do judges take part in the plea negotiations, before a plea agreement is reached?

1) Yes, because required to do so by law

2) Yes, in contrast with the law

3) Yes, in the absence of any legal provision regulating or prohibiting their participation

0) No

12.2. Is the plea agreement subject to judicial review before becoming effective?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

What of the following aspects are object of judicial review:

It is possible to tick more than one option.

1) Voluntariness of the agreement

2) Comprehension of the criminal consequences of the plea agreement by the defendant

3) Comprehension of non-criminal consequences of the plea agreement by the defendant

4) Existence of a factual basis for the imposition of a criminal sentence

5) Proportionality between the sentence agreed upon and the severity of the crime

6) Proportionality between the sentence agreed upon and the culpability of the defendant

7) Others

Can you please specify what other aspects are object of judicial review?

Which of the following decisions can a judge take after reviewing the agreement: *It is possible to tick more than one option.*

1) Rejecting the agreement

2) Asking the parties to negotiate a different agreement

3) Unilaterally modifying the content of the agreement

4) Convicting the defendant, but imposing a sentence that deviates from the content of the agreement

5) Others

Can you please specify what other decisions can a judge take?

What was the actual rejection rate in 2019?

Can you please provide a source for this information?

Is the judge required to motivate his decision regarding the agreement?

1) Yes

0) No

Is the decision taken during a public hearing?

1) Yes

0) No

13. Legal counsel

13.1. Is the presence of a lawyer mandatory when plea-bargaining negotiations are initiated?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

Is this right waivable by the defendant?

1) Yes

0) No

13.2. Is the presence of a lawyer mandatory for concluding a plea agreement?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

Is this right waivable by the defendant?

1) Yes

0) No

13.3. Is the presence of a lawyer mandatory at trial?

It is possible to tick more than one option.

However, please do not thick both the "No" and one of the "Yes" options.

5) Yes, in all cases

4) Yes, but only when the defendant is facing a possible prison sentence

3) Yes, but only when the defendant is facing a possible prison sentence over a certain threshold

2) Yes, but only when the defendant is facing a possible fine sentence over a certain threshold

1) Yes, in other cases

0) No

Can you please specify in which other cases is the presence of a lawyer mandatory at trial?

Is this right waivable by the defendant?

1) Yes

0) No

14. Role of the victim

14.1. Can the victim of the crime participate in plea negotiations between the defendant and the prosecutor/judge?

1) Yes

0) No

0.5) Yes, but only in certain cases

Can you please specify in which cases?

14.2. Can the victim of the crime veto the conclusion of the plea agreement?

1) Yes

0) No

0.5) Yes, but only in certain cases

Can you please specify in which cases?

15. Alternatives to plea bargaining

15.1. Simplified trials

Can a prosecutor obtain a criminal conviction by recurring to a simplified trial?

With the term "simplified trials" we refer to those procedures according to which a criminal case is adjudicated at the end of an abbreviated trial, resulting in a possible criminal conviction. During this kind of trials, the relevant evidence is only that gathered during the investigation phase, without the possibility of producing new evidence at trial.

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

Where in the law is the simplified trial procedure regulated?

What is the name of the simplified trial procedure in the legal language of your country?

Are simplified trials applicable to the same crimes for which plea bargaining can be used?

3) Yes, in all cases

2) Yes, in the majority of cases

1) Yes, but only in some cases

0) No

What was the number of criminal proceedings dealt with the simplified trial procedure in 2019?

Can you please provide a link to the source of this information?

15.2. Penal orders

Can a prosecutor obtain a criminal conviction by recurring to a penal order?

With the term "penal order" we refer to the submission, in writing, of a suggested charge and punishment from the prosecutor to the defendant. If the defendant rejects the proposal within a limited period of time, their case will be decided by a judge. If instead he explicitly accepts the proposal or fail in opposing it before a deadline, the penal order will result in a criminal conviction.

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

Where in the law is the penal order procedure regulated?

What is the name of the penal order procedure in the legal language of your country?

Are penal orders applicable to the same crimes for which plea bargaining can be used?

3) Yes, in all cases

2) Yes, in the majority of cases

1) Yes, but only in some cases

0) No

What was the number of criminal proceedings dealt with the penal order procedure in 2019?

Can you please provide a link to the source of this information?

15.3. Conditional dismissals

Can a prosecutor terminate a criminal prosecution by recurring to conditional dismissals?

With the term "conditional dismissals" we refer to the termination of a criminal prosecution, conditioned on the fulfillment of certain actions by the suspect, such as restitution of the profits of the crime, restoration of the victim etc. The conditions to be fulfilled are set by the prosecutor, according to the law, and their imposition on the suspect does not constitute a criminal conviction.

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

Where in the law are conditional dismissals regulated?

What is the name of conditional dismissals in the legal language of your country?

Are conditional dismissals applicable to the same crimes for which plea bargaining can be used?

3) Yes, in all cases

2) Yes, in the majority of cases

1) Yes, but only in some cases

0) No

What was the number of criminal proceedings dealt with conditional dismissals in 2019?

Can you please provide a link to the source of this information?

15.4. Other mechanisms

Can a prosecutor obtain a criminal conviction by recurring to other mechanisms, different from ordinary trials, simplified trials, penal orders, and plea bargaining?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

Where in the law are those other mechanisms regulated?

What is the name of those other mechanisms in the legal language of your country?

Are those other mechanisms applicable to the same crimes for which plea bargaining can be used?

3) Yes, in all cases

2) Yes, in the majority of cases

1) Yes, but only in some cases

0) No

What was the number of criminal proceedings dealt with such other mechanisms in 2019?

Can you please provide a link to the source of this information?

16. Prosecutorial discretion

Is mandatory prosecution the legal principle regulating prosecutorial discretion in your country?

1) Yes

0) No

17. Jury trials

Does jury trial exist in your country?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

Does jury trial apply to the same types of crimes that can be object of plea bargaining?

3) Yes, in all cases

2) Yes, in the majority of cases

1) Yes, but only in some cases

0) No

Is unanimity required for a conviction at a jury trial?

1) Yes

0) No

18. Pretrial detention

18.1. Is pretrial detention only available for crimes punishable with sentences above a certain severity threshold?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

Can you please indicate this sentence severity threshold?

18.2. Is pretrial detention only available for certain categories of crimes?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

Can you please indicate these categories of crimes?

18.3. Overall, can the crimes for which pre-trial detention is available be the object of plea bargaining?

3) Yes, in all cases

2) Yes, in the majority of cases

1) Yes, but only in some cases

0) No

18.4. Is pretrial detention only available for certain categories of criminals?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

Is the plea-bargaining procedure available for these categories of criminals?

3) Yes, in all cases

2) Yes, in the majority of cases

1) Yes, but only in some cases

0) No

18.5. Who decides over the application of pre-trial detention?

It is possible to tick more than one option.

1) A Judge

2) The prosecutor

3) Others

Can you please specify what are those other authorities?

18.6. Is the duration of pretrial detention limited by law?

(Please, be aware that it is not possible to change the answer to this question later)

1) Yes

0) No

Can you please indicate this time limit?

19.1. Indication of other experts

If you did not know the answer to some questions, but you know someone who is willing and able to provide answers, please let us know.

19.2. General comments and corrections

You can correct previous answers or make any other comment down here.

Chapter 3 Plea bargaining procedures worldwide: Drivers of introduction and use*

3.1. Introduction

After describing the current formalization and use of administratization methods in Chapter 2, the present Chapter focuses on plea bargaining procedures. In particular, the present chapter aims at answering the following two research questions:

a) which factors determine whether a jurisdiction will formalize plea bargaining or not?

b) which factors drive the different levels of use of plea bargaining observed in practice across different jurisdictions?

Both research questions are answered by running cross-country regressions based on the dataset introduced in Chapter 2. Regarding research question a), the results show that the French and Scandinavian legal origins, together with having a Muslim majority population, are associated with lower probabilities of formalizing plea bargaining, while being a democracy is associated with higher probabilities. The prior formalization of penal orders, the level of material resources and crime rates, instead do not play a significant role in influencing the probabilities of formalizing plea bargaining. Regarding research question b), the empirical analysis shows that an increase in GDP per capita is associated with greater plea-bargaining rates up to a certain point, after which the relationship becomes negative. Higher plea-bargaining rates are also associated with the Spanish and Socialist legal origins, less complex regulation of plea-bargaining procedures, and the presence of jury trials.

The chapter is organized as follows. Section 3.2. discusses which factors could influence the probability of formalization of plea bargaining in theory. Section 3.3. describes the data employed in the empirical analysis. Section 3.4. reports and discusses the results of the empirical analysis, regarding both the formalization of plea bargaining and its use in practice. Section 3.6. concludes.

* This chapter is based on my paper, co-authored with Elena Kantorowicz-Reznichenko and Stefan Voigt, "Plea bargaining procedures worldwide: Drivers of introduction and use", *Journal of Empirical Legal Studies*, *22*(1), 27-75. All figures in this chapter constitute replicas the corresponding figures included in the published paper.

3.2. Factors influencing the introduction and use of plea bargaining

3.2.1 Legal origins

In jurisdictions belonging to the adversarial tradition, we often do not observe the formal introduction of plea bargaining, but rather the regulation of a pre-existent practice, as in the case of the U.S.[114] Indeed, where a pleading stage exists, guilty pleas are typically rewarded with a sentence discount, either considering the saving in terms of time and resources that they guarantee to the State and the victims, or because they are interpreted as a sign of repentance. This leads to the emergence in practice of plea bargaining and sentencing discounts, which are then normally formalized either by judicial decisions, by statute, or in prosecutorial and sentencing guidelines.[115] Conversely, in jurisdictions belonging to the inquisitorial tradition, plea bargaining procedures are typically introduced *ex novo*, often in conjunction with broader reforms of the criminal justice system. Following these considerations, the term "formalization" is used instead of "introduction" of plea-bargaining procedures.

However, the adversarial-inquisitorial divide alone does not include all the possible differences in the functioning, goals, and principles of criminal justice systems. Instead, such differences can be identified in greater detail, and in a more nuanced way, by legal origins.

La Porta et al. (2008) define legal origins as "a style of social control of economic life" (p.286). In the present paper, legal origins can be interpreted as different styles of regulation of criminal procedure. Following that literature, one would expect a systematic relationship between different legal origins and the probability of formalization of plea bargaining across jurisdictions.

To test the relevance of legal origins for the probability of formalizing plea bargaining, the classification presented in La Porta et al. (2008) is adopted first. Their categorization divides

[114] The practice of plea bargaining was already common in U.S. cities at the end of the 19th century, but the public and higher courts became aware of its pervasiveness only during the 1920s. However, the constitutionality of the practice was not declared until 1970, when the Supreme Court also started to regulate it; see Brady v. United States (1970). For classic accounts of the history of plea bargaining in the U.S. see Alschuler (1979) and Langbein (1979).
[115] The emerging of informal plea-bargaining practices is not exclusive of the adversarial tradition, as shown by the case of Germany. In some German courts during the 1970s, the practice of *Absprachen*, or agreements, became an important way for dealing with complex cases. However, the emergence of informal plea-bargaining practices in Germany constitutes an exception within the inquisitorial tradition. For the history of plea agreements in Germany, see Rauxloh (2011).

the legal systems of the world into five legal traditions: English, French, German, Scandinavian, and Socialist.[116]

This classification, already criticized for certain coding decisions (see, e.g., Michaels, 2006), has been subsequently refined by other scholars. Most notably, Klerman et al. (2011) removed the Socialist legal origin and introduced a Mixed legal origin, comprising some jurisdictions initially colonized by a civil law country and subsequently conquered or administered by the United Kingdom or the United States, which however only partially replaced the existing civil law institutions with common law.[117] Klerman et al. (2011) proposes an additional classification, not based on legal origins but on colonial history. Jurisdictions are thus assigned to one of the following five categories, based on the colonial power that dominated the corresponding territory in the period 1750-2007: former British colonies; former French colonies; former colonies of French civil law countries other than France; other former colonies; countries never colonized.[118] The two classifications proposed by Klerman et al. (2011) are also employed, together with the one by La Porta et al. (2008), to test the relevance of legal origins for the probability of formalizing plea bargaining.

However, the legal origins classifications described above are mainly motivated by private law considerations, thus potentially disregarding the relevance of specific criminal procedure traditions. Similarly, the classification based on colonial history has the merit of distinguishing different experiences within the French civil law origin, but it fails to consider important commonalities in the criminal procedure of jurisdictions with different colonial experiences.[119] For these reasons an original taxonomy of legal origins is also adopted, based upon central traits of criminal procedural law.

First, the Spanish legal origin is considered as a category of its own. A first reason is that the oldest plea-bargaining procedure is precisely Spanish *conformidad*, first regulated in the Criminal procedure law of 1882 (Varona et al., 2022). The formalization of a plea-bargaining

[116] In turn, the classification adopted by La Porta et al. (2008) derives from the one proposed by comparatists Zweigert and Kötz. However, comparativists and economists use and understand such classifications in a different way; see Garoupa and Pargendler (2014).
[117] The jurisdictions classified as Mixed by Klerman et al. (2011) and included in the sample are Botswana, Cyprus, Guyana, Israel, Jordan, Lesotho, Malta, Mauritius, Philippines, Scotland, South Africa, Sri Lanka, Thailand, Zimbabwe. Canada is also coded as mixed jurisdiction, since plea bargaining rates for 2019 were computed with reference to Québec, which is mentioned among the mixed jurisdictions by Klerman et al. (2011).
[118] In case of colonization by multiple colonial powers over time, Klerman et al. (2011) considers the most recent one, unless the control was exercised for a relatively brief period.
[119] For example, Japan regulated its criminal procedure following the German model and later imposed it in Korea and China during its colonial rule. South Korea and Taiwan retained the German model imposed by the Japanese also after independence (Chisholm, 2014), but the three jurisdictions are placed in two different categories in the colonial history classifications by Klerman et al. (2011).

procedure in Spain can be considered as an evolution of the system of the *Siete Partidas*, which regarded confession as the most important means of proof, and which regulated criminal procedure in Spain until 1882 and in all Spanish colonies until their independence and the adoption of national legislations.[120] The *Siete Partidas*, by assigning such prominence to confession, might have influenced the evolution of structures of interpretation and meaning diverging from those of other inquisitorial traditions. In particular, it might be easier for lawyers in the Spanish legal origin to accept a simple confession as a legitimate way of concluding a criminal proceeding, compared to other inquisitorial traditions that require a thorough search for the objective truth in any case (Hodgson, 2006; Grande, 2016). Furthermore, a peculiar Hispanic tradition might have evolved because of the diffusion of regional models, especially in the Americas, and because of the commonality of language, which facilitated the access to the same doctrinal sources by lawyers in different jurisdictions. Evidence of this phenomenon comes from the wave of reforms that took place in Latin America between the 1990s and the 2000s, leading most jurisdictions in the region to adopt new codes of criminal procedure inspired by adversarial ideals and characterized by the formalization of plea-bargaining procedures. Langer (2007) describes in detail the existence of a common legal culture which inspired this wave of reforms, shaped not only by Latin American models, but also by a persisting Spanish influence, through the activities of the Iberian American Institute of Procedural Law and the Model Criminal Procedure Code for Iberian America of 1986. For these reasons, Spain and its former colonies are likely to display a different approach towards criminal procedure, and plea bargaining in particular, compared to the other members of the French legal origin.

Second, the Socialist legal origin differs from the homonym family presented in La Porta et al. (2008) and it comprises three categories of jurisdictions: those that are still one-party autocracies ruled by a Communist Party; those which gained independence from the Soviet Union; the members and observers of the Warsaw Pact who were not previously part of the Austro-Hungarian or German empires.[121] Such a different classification is motivated by the

[120] It is worth noticing that all Spanish colonies in the Americas gained their independence before 1882, hence *conformidad* was never part of their criminal procedure system. The only exception is Cuba, which became independent only in 1898, and in which the Spanish Code of criminal procedure of 1882 remained into force until 1973 (Mendoza Díaz, 2022). However, Cuba itself formalized a plea-bargaining procedure only in 1994, and it is included in the Socialist legal origin in our taxonomy.

[121] These jurisdictions are not included in the Socialist legal origin because of the likely relevant and persistent influence of Germanic legal doctrine on their system of criminal procedure. For example, the long-lasting and different influence of the Prussian, Austrian, and Russian dominations in Poland has been shown in relation to the organization of bureaucratic institutions (Vogler, 2019) and the size of property tax rates (Kantorowicz, 2022).

peculiarities of the Soviet criminal procedure, its persistent legacy, and its influence on other Socialist countries outside of the USSR.[122] Indeed, the Soviet system has been defined a "distorted neo-inquisitorialism", characterized by far-reaching powers of investigators and weakness of judges (Solomon, 2015). Such weakness is still persistent in post-Socialist countries, and it extends to defense lawyers, whose career often depends upon maintaining a good working relationship with investigators and judges. In turn, the latter still consider an acquittal as a defeat that can be easily avoided by recurring to confession agreements (Moiseeva, 2017). Members of the Socialist legal origins can thus retrieve, through plea bargaining, the centrality of confessions of Soviet-era trials (Solomon, 2012), in addition to many other informal practices, whose survival is well-documented for Russia and China (Solomon, 2010).

In addition, legal origins can influence not only the likelihood of formalizing plea bargaining, but also its subsequent use in practice. This can happen through two channels, an indirect one and a direct one. Concerning the indirect one, as a style of regulation of criminal procedure, different legal origins influence the legal design of plea bargaining. In turn, different legal design choices affect the actual use of these procedures. For example, requiring a more extensive judicial review of the agreement might result in lower plea-bargaining rates. Concerning the direct effect, different legal traditions produce different "structures of interpretation and meaning" (Langer, 2004, p.10) through which the relevant actors interpret the rules of procedure and their own role within the system. For example, common law judges are less active during the interrogation of witnesses, not only because of differences in procedural rules, but also because they understand differently the proper role of the judge (Langer, 2004; Ogg, 2013). Similarly, law enforcers may have recourse to plea bargaining more often in jurisdictions that consider it as an ordinary way for disposing of criminal cases, independently from the legal design of the procedure. Thus, different legal origins can shape not only the legal design of plea bargaining, but also the disposition of individual agents towards its use in practice. Consequently, legal origins associated with higher probabilities of formalizing plea bargaining should also be associated with higher plea-bargaining rates.

[122] Based on the three groups described above, the following 21 jurisdictions are included in the Socialist legal origin: Cuba, China, Laos, Vietnam; Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan; Bulgaria, Mongolia.

3.2.2. Muslim population

In many Muslim-majority countries, belonging to different legal origins, Sharia is considered as a source of law. If the relative majority of the population is Muslim, then Sharia will likely influence the public perception about the proper role and the principles of criminal procedure in a way not captured by legal origins alone.

Sharia divides crimes into three categories: *Huddud*, *Qisas*, and *Taazir* (Hakeem, 2003). *Huddud* constitutes a *numerus clausus* of crimes,[123] whose punishment is prescribed directly by the Quran or the Sunna. The punishment prescribed for *Huddud* is considered a right of God (Reza, 2013), thus it cannot be adjusted in any manner, nor waived by anyone (Hakeem, 2003). Hence, plea bargaining would be excluded for those crimes. The second category, *Qisas*, constitutes another *numerus clausus*, encompassing the main crimes against bodily integrity.[124] The two punishments provided for this category are alternatively the principle of talion or the payment of compensation, called *diyya* (Bassiouni, 1997). By providing for compensation, the Islamic tradition seems to promote the disposition of criminal cases through agreements between the offender and the victim. Such consensual elements recall mediation procedures adopted by some Western jurisdictions, but they differ from plea bargaining in two ways. First, the negotiations are not between the defendant and the prosecutor, or another public authority; instead, they take place between the offender and the victim, or the victim's family, with the possible participation of a mediator. Second, the entire process is not directed at imposing a criminal conviction, but just at seeking compensation for the victim, thus solving the interpersonal conflict originated by the wrongdoing. After the *diyya* has been agreed upon and paid, there is no further room for criminal punishment. Hence, plea bargaining seems also alien to this second category of crimes. The third category, *Taazir*, is a residual one, which includes offenses from the *Huddud* and *Qisas* categories which were not sufficiently proven, but that the judge deemed worth of punishment in a reduced form (Bassiouni, 1997). However, since confession is a means of proof for both *Huddud* and *Qisas*, only a crime that the defendant has not confessed to could be punished with a reduced sanction in the form of *Taazir*. Indeed, confession is always treated just as a means of proof by Sharia, and it is never connected to the imposition of a reduced sentence. Furthermore, in the case of *Taazir* the task of determining

[123] There is no consensus about the list of crimes included in the *Huddud* category. The following four crimes are considered *Huddud* by all Islamic jurists (El Awa, 1982): *Shariba* (theft), *Hiraba* (armed robbery), *Zina* (illicit sexual intercourses), *Qadhf* (false accusation of unchastity). For a detailed discussion of the individual *Huddud* crimes and related punishments, see Hakeem (2003).

[124] The following five crimes are generally included in the *Qisas* category (Bassiouni, 1997): murder, voluntary and involuntary killing, intentional and unintentional physical injury.

both whether an act is a crime and the consequent punishment is left to the discretion of the judge (Hakeem, 2003), which cannot be constrained by agreements between defendants and prosecuting authorities. Finally, the punishment of *Taazir* is directed at achieving deterrence, and its entity cannot be justified in the light of a different objective, including that of achieving greater procedural efficiency through plea agreements. Consequently, plea bargaining seems also alien to the domain of *Taazir*.

With reference to all three categories of crimes, Shariah principles are not conducive to the adoption of plea-bargaining procedures. Thus, Muslim-majority countries should exhibit negative probabilities of formalizing plea bargaining. Like legal origins, Sharia may be considered a "structure of interpretation and meaning" (Langer, 2004, p.9) that guides individual choices in the domain of criminal procedures. Thus, if Sharia principles do not promote the disposition of criminal cases in the form of plea agreements, Muslim citizens may recur to plea bargaining only to a limited extent, even in jurisdictions that allow it. Hence, a higher share of Muslims in the population should be also associated with lower plea-bargaining rates.

Other alternative sources of law besides Sharia are not considered for two reasons. On the one hand, Sharia is the only one allowing for a meaningful comparison in a cross-country setting, being common to a rather large number of jurisdictions. On the other hand, non-Western indigenous legal traditions remained relatively marginal in shaping the formal legal systems and the structures of interpretation and meaning of contemporary jurisdictions, compared to Sharia law and to Western models imposed by colonization or adopted by choice.

3.2.3. Age of the procedure

One of the criticisms raised by comparatists against the legal origins literature is that economists seemed to take legal taxonomies as something given once and forever (Garoupa and Pargendler, 2014). Instead, lawyers expressly warned that "the attribution of a system to a particular family is susceptible to alteration" (Zweigert and Kötz, 1987, p.66). The introduction of plea bargaining itself can induce legal actors to "internalize a different structure of meaning" (Langer 2004, p.13), thus potentially diverting a jurisdiction from its original legal tradition and towards another. Furthermore, with time, legal actors can learn how to better use a newly established procedure (Langer, 2021), thus increasingly using it over the years.

As time passes, the modification of the traditional structures of interpretation and meaning can be coupled with a learning effect. Hence, higher plea-bargaining rates should be observed in jurisdictions in which plea bargaining has been formalized earlier.

3.2.4. Penal orders

As discussed in Chapter 2, penal orders constitute the other administratization method known in contemporary criminal procedure. In particular, penal orders can be considered as functional equivalents of plea bargaining, by allowing prosecutor to quickly dispose of evidentiary simple cases and concentrate resources upon the investigation of more complex ones (Easterbrook, 1983). Additionally, likewise plea bargaining, penal orders enable the prosecution of a larger number of petty cases, which would have been otherwise discontinued, under binding resource constraints (Dušek and Montag, 2017). Consequently, jurisdictions that already adopted penal orders should exhibit lower probabilities of formalizing plea bargaining.[125]

Furthermore, penal orders can be considered not only as functional equivalents, but even as cheaper trial-avoiding conviction mechanisms compared to plea bargaining. In fact, as described in detail in Chapter 2, in many jurisdictions penal orders can be imposed without any judicial intervention, unlike plea bargaining, and often they can be imposed without any prior contact between law enforcers and defendants. Consequently, jurisdictions that allow for penal orders should exhibit lower plea-bargaining rates.

3.2.5. Jury trials

The larger the costs of trials, the more resources may be saved through plea bargaining. Indeed, the historical literature links the origin and rise of plea bargaining in the U.S. with the increased costs and complexity of criminal trials (Alschuler 1979; Feeley 1997).

Those costs were especially high in the case of jury trials, which had already become "absolutely unworkable as an ordinary dispositive procedure" (Langbein 1978, p.9) by the end of the 19th century, thus making plea bargaining a necessary substitute. Furthermore, jury trials are also associated with greater outcome uncertainties, thus providing additional incentives towards the use of plea bargaining (Ortman, 2020). Hence, jurisdictions with institutionalized jury trials should exhibit higher probabilities of formalizing plea bargaining, as well as higher plea-bargaining rates.

[125] For the concept of functional equivalence see Michaels (2006).

3.2.6. Legal design of the procedure

As described in Chapter 2, the legal design of plea-bargaining procedures varies across jurisdictions. First, some jurisdictions allow plea agreements for every kind of criminal case, while others prohibit them in certain instances, e.g., when a sentence above a certain threshold should be imposed, or for certain categories of crimes, or if the defendant is a repeat offender. Second, in some jurisdictions the parties can negotiate over the type and number of charges pushed, or over the size and type of sentence to be imposed; in other jurisdictions, charges cannot be negotiated, while fixed sentence discounts are mandated in the case of plea agreements. Third, the involvement of judges, defense lawyers, and victims can vary across jurisdictions, both during the negotiation phase and the subsequent judicial review of the agreement. A greater involvement of agents in addition to the defendant and the prosecutor will likely increase transaction costs, thus reducing the attractiveness of plea bargaining.

The different legal design choices mentioned above may influence plea-bargaining rates. In particular, a looser regulation of the procedure should be associated with a greater use of plea bargaining in practice, while the opposite should hold true for stricter regulations.

3.2.7. Resources

Plea bargaining enables the imposition of criminal convictions without holding criminal trials. This saves time and resources but at the cost of lower accuracy in the adjudication of cases, especially in the form of wrongful convictions (Bibas, 2004; Givati, 2014; Dušek and Montag, 2017; Beenstock et al., 2021). Hence, the benefits from plea bargaining should outweigh the costs in jurisdictions where resources are scarcer, but not where more resources can be allocated to the prosecution and adjudication of criminal cases. Consequently, jurisdictions that can invest more resources in the criminal justice system should exhibit a lower probability of formalizing plea bargaining, while the opposite should hold for poorer jurisdictions.

Regarding the use of plea bargaining in practice, wealthier jurisdictions should be able to rely less on plea bargaining as an ordinary caseload disposition mechanism. At the same time, in poorer jurisdictions, defendants may consider the threat of conviction at trial not credible when offered a plea agreement. This might happen because defendants expect that, given the lack of material resources, police and prosecutors were not able to build a strong enough case to sustain a conviction at trial. Additionally, even if the case is strong enough, defendants anticipate that a conviction at trial will be imposed after a rather long time, due to the overburdening of the under-resourced court system. Because of time discounting, a punishment imposed in the future

inflicts a minor cost on the defendant compared to the same punishment imposed in the present (Listokin, 2007): if the disposition time at trial is particularly long, the effect of time discounting might outweigh all the possible benefits attainable through plea bargaining. This issue is exacerbated when considering that criminal behavior is strongly associated with higher time discount rates (Wilson and Herrnstein, 1985; Åkerlund et al., 2016). Thus, lower plea-bargaining rates should be observed in both very wealthy and very poor jurisdictions.

3.2.8. Crime rates

Higher crime rates should prompt the adoption of more effective ways for dealing with criminal cases. One such way is plea bargaining, which enables the imposition of criminal convictions while avoiding the costs of trial. Hence, jurisdictions with higher past crime rates should exhibit a higher probability of formalizing plea bargaining.

Regarding its use in practice, jurisdictions with lower crime rates should rely less on plea bargaining as an ordinary caseload disposal mechanism, since their courts are not overburdened. At the same time, in jurisdictions with extremely high crime rates, criminal defendants might be less prone to accept plea agreements. As discussed in Bar-Gill and Ben-Shahar (2009), prosecutors can extract plea agreements from a larger number of defendants because they negotiate with each of them individually. However, the threat of bringing to trial all defendants is not credible, due to resource constraints, when considering criminal defendants as a group. If defendants were able to coordinate, they would obtain more advantageous plea deals, or less of them would face a conviction. However, defendants can only overcome their collective action problem under three conditions: that they know each other in advance; that they can communicate and thus agree on a collective strategy; that this strategy can be enforced. Bar-Gill and Ben-Shahar (2009) notices that those conditions are unlikely to hold, thus resulting in the puzzling outcome of under-resourced prosecutors who credibly threaten each defendant with trial, thus extracting harsh and numerous plea agreements. However, it is possible that those three conditions hold for a significant number of defendants in jurisdictions characterized by higher crime rates. The reason is that those jurisdictions are most likely characterized by the presence of powerful criminal organizations, which can ensure coordination among thousands of defendants, and enforce it through reputational mechanisms and the threat of retaliation in case of defection. Additionally, on the supply side, law enforcer might be less prone to offer plea agreements when facing high crime rates in an attempt to appear tougher on crime and fearing that a lighter sentencing policy might further undermine deterrence. Such an attitude might be backed, or induced, by the public opinion on retributionist grounds. Hence, lower

plea-bargaining rates should be observed both in jurisdictions with extremely high and extremely low crime rates.

3.2.9. Democracy

In Sections 3.2.7. and 3.2.8. it was argued that poorer jurisdictions should display a greater propensity towards the formalization of plea bargaining, since they cannot afford to process most criminal cases through ordinary trials. The same should hold true for jurisdictions characterized by higher crime rates, since ordinary trials alone are not an effective means for processing huge caseloads. Yet, those jurisdictions might pursue greater efficiency in alternative ways, most notably by lowering evidentiary thresholds or limiting the defense rights of the accused. However, similar solutions are hardly acceptable in democratic regimes, because of internal public opinion concerns and the need to meet international standards in the protection of human rights. Instead, criminal procedure systems in democracies are characterized by a stronger protection of defendants' substantive and procedural rights, which makes convictions harder to obtain at trial. This, in turn, exerts an additional pressure towards the introduction of alternative ways for disposing of criminal cases (Thaman, 2010). For these reasons, democracies should show a higher propensity towards the formalization of plea bargaining, compared to authoritarian regimes.

Regarding the extent of use in practice, one might expect higher plea-bargaining rates in democracies, since stronger defense rights make convictions more difficult to obtain at trial, while democratic accountability still requires an effective prosecution of crimes by police and prosecutors. At the same time, in autocratic regimes prosecutors and police might be able to secure a greater number of guilty pleas, by exerting far more pressure on defendants, given the lower emphasis placed on the procedural and substantive rights of the accused. Consequently, the relationship between democracy and plea-bargaining rates is ambiguous in theory.

This section presented nine hypotheses regarding both the probability of formalizing plea bargaining and its use in practice. The next section will describe the data employed for testing these hypotheses.

3.3. Data

3.3.1. Covered jurisdictions and time

The empirical analysis considers the 174 jurisdictions included in the dataset described in Chapter 2. Figure 3.1. shows which jurisdictions have formalized a plea-bargaining procedure as of 2022.

Figure 3.1. Jurisdictions with a formalized plea-bargaining procedure in 2022

Note: Solid grey - jurisdictions with a formalized plea-bargaining procedure (101/174); Dotted light grey – jurisdictions without a plea-bargaining procedure; Solid light grey – data not available.

However, the empirical analysis reported in the present chapter is limited to the year 2019. This year was chosen because it is the most recent year not affected by the Covid-19 pandemic for which the relevant data are available. Later years were not considered as they are unlikely to be representative of the normal functioning of a criminal justice system, considering the effects of lockdowns on both crime rates and the work of criminal law enforcers. It was possible to compute plea-bargaining rates for 52 jurisdictions with respect to the year 2019, as shown in Figure 3.2. Figure 3.3. reports instead the geographical distribution of those 52 jurisdictions, vis-à-vis the distribution of plea-bargaining procedures worldwide.

Figure 3.2. Plea-bargaining rates in 52 jurisdictions in 2019 (%)

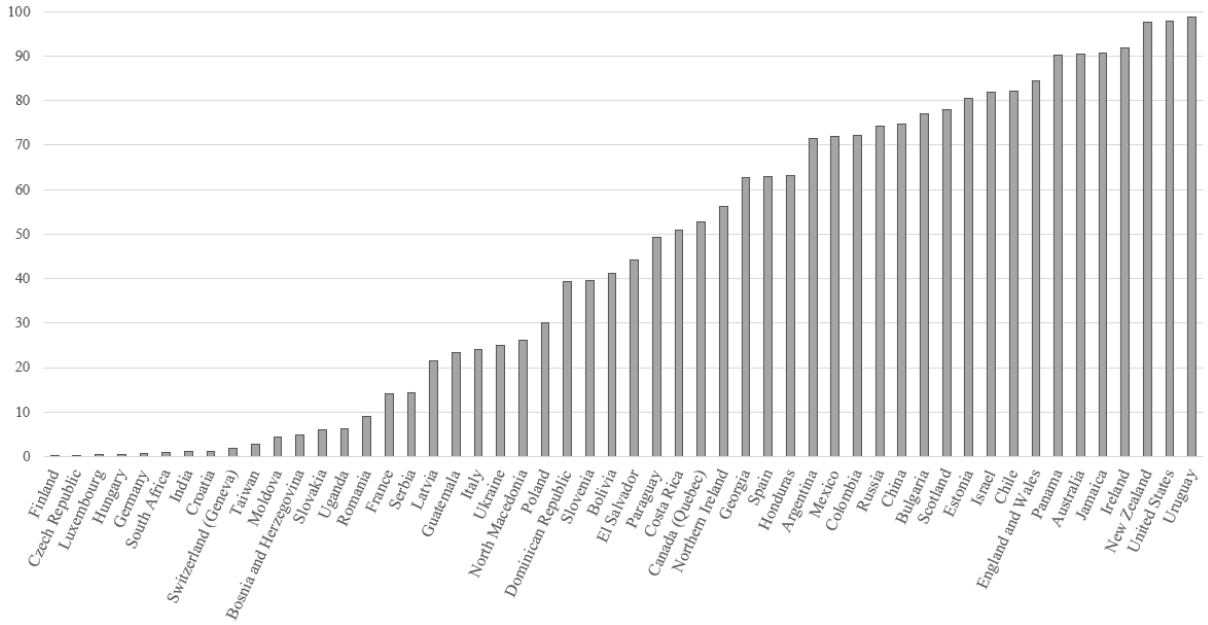
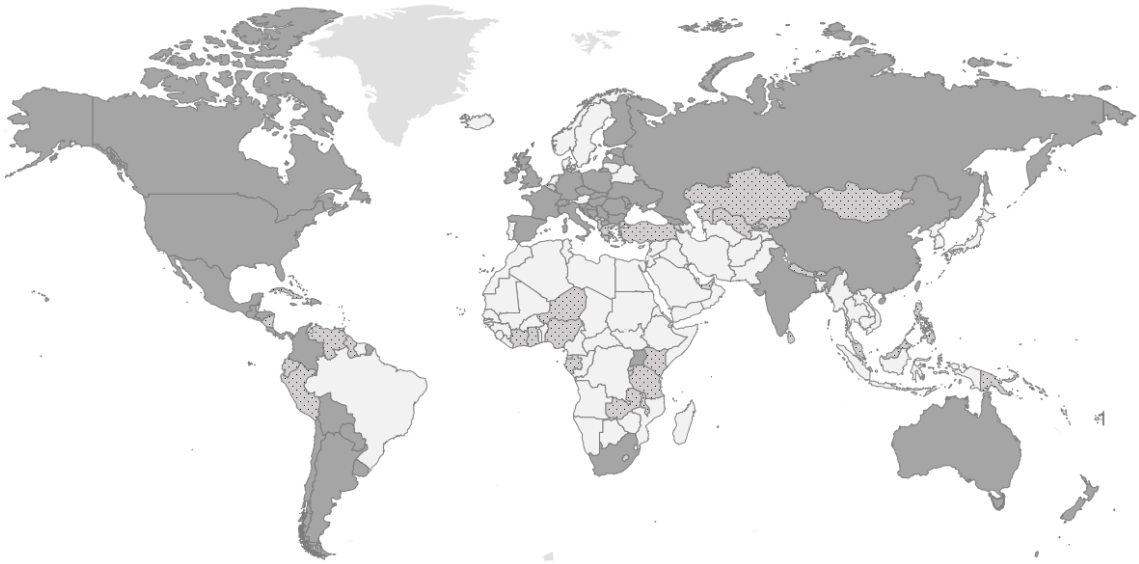


Figure 3.3. Jurisdictions for which the plea-bargaining rate in 2019 is known



Note: Solid grey – jurisdictions for which the plea-bargaining rate in 2019 is known; Dotted grey - jurisdictions with formalized plea bargaining but for which the plea-bargaining rate in 2019 is not known.

Some words of caution are needed regarding the plea-bargaining rates computed. First, as is usual in the literature (Fair Trials, 2017; Langer, 2021), for common law jurisdictions the number of guilty pleas has been used as a proxy for the number of plea-bargaining cases, since no official statistics report the number of plea agreements. Second, for some jurisdictions it was possible to collect the relevant data with reference to only certain types of courts, certain territories, or periods of time shorter than one year (Appendix B.3.). Third, in certain

jurisdictions the unity of reference is the number of cases, while in others it is the number of people.[126] Fourth, in the case of South Africa, data are available only with reference to the formalized plea-bargaining procedure regulated by Sec. 105A of the Criminal Procedure Act. Yet, defendants can still plead guilty according to the older and informal procedure governed by Sec. 112. According to the Law and Economics literature (Adelstein, 2019) the informal plea bargaining might be more popular in practice than the more regulated one.[127]

3.3.2. The variables

The two dependent variables used in the empirical analysis are *pb_legal* and *pb_rate*. The variable *pb_legal* is a dummy assuming value 1 if a given jurisdiction has a formalized plea-bargaining procedure, and 0 otherwise. The variable *pb_rate* is instead a continuous one, corresponding to the plea-bargaining rate in 52 jurisdictions in 2019.

Another variable based on the novel dataset on administratization procedures is the one capturing how strict the regulation of plea bargaining is in different jurisdictions. As described in Chapter 2, Section 2.4.2, several legal design features of plea-bargaining procedures were used in cluster analysis, to generate three clusters, corresponding to a minimal, intermediate, or maximal regulation level. Jurisdictions in the maximal regulation cluster typically limit the applicability of plea bargaining to crimes of moderate gravity and mandate a more thorough judicial scrutiny over the agreement. Conversely, jurisdictions in the minimal regulation cluster allow the use of plea bargaining for all crimes, do not require the involvement of defense lawyers or victims, and prescribe a more passive role of the judge.[128]

Continuing with the variables based on the novel dataset, *pen_ord* is a dummy assuming value 1 if a penal order procedure existed in a given jurisdiction in 2019 and 0 otherwise. The variable *pen_ord_5* considers instead the existence of a penal order procedure in each jurisdiction 5 years before the formalization of plea bargaining, or in 2017 for jurisdictions that did not have a formalized plea-bargaining procedure in 2022.

The variable *jury_trial* is a dummy assuming value 1 if jury trials existed in a given jurisdiction in 2019 and 0 otherwise. For coding this variable, only jury trials in the stricter sense were considered, hence those in which "jury members decide, without a professional judge having

[126] However, discrepancies are minimal when comparing plea-bargaining rates based on cases with those based on people in jurisdictions that report both kinds of figures (e.g. Czech Republic, Georgia, Moldova).
[127] When considering the procedure regulated by Sec. 105A, South Africa is indeed an outlier within the English legal origin, with a plea-bargaining rate of just 0,98%. Hence, South Africa is dropped from the sample in robustness tests reported in Appendix B.2. The main results are robust to the exclusion of South Africa.
[128] Appendix A.1. reports in which cluster is placed each of the 102 jurisdictions with formalized plea bargaining.

the right to vote" (Voigt 2009, p.328). Lay assessors are then excluded, since it has been observed that they almost never outvote the professional judges and are less active in courts than jurors, thus not significantly impacting the costs and uncertainty of trial (Munday 1993; Thaman 1999; Voigt 2009).[129]

The variable *pen_ord_overlap* describes to what extent criminal cases that could be disposed through plea bargaining could alternatively be disposed through penal orders.[130] Similarly, the variable *jury_trial_overlap* considers to what extent criminal cases that could be disposed through plea bargaining would be disposed by jury trials, in case the parties opt for trial.[131] These variables are used as robustness tests, since they better capture the incentive structure of defendants and other parties towards plea bargaining when penal orders and jury trials are possible alternatives.[132]

The age of the procedure is captured by the continuous variable *year_pb*, whose value equals the number of years passed between the formalization of the plea-bargaining procedure and 2019, the year to which plea-bargaining rates refer. The year of formalization can be given either by the date of a judicial decision establishing the rules governing the plea-bargaining procedure, or by the date of promulgation of a statute establishing those rules.

The variable *legal_orig* reports legal origins according to La Porta et al. (2008), *legal_orig_Klerman* and *colony* report respectively legal origins and colonial history according to Klerman et al. (2011), while *legal_orig_alt* is my alternative classification, in which the new Spanish and Socialist legal origins are coded.[133] In robustness tests, two additional and minimal classifications of jurisdictions are adopted, with the dummies *common_law* and *adversarial* assuming value 1 if a jurisdiction belongs respectively to the common law family or to the adversarial tradition and 0 otherwise. In this way, it is possible to directly test the claim according to which common law and adversarial systems are more conducive towards the formalization and use of plea bargaining.

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[129] A separate *jury_trial_5* variable was not coded on the model of *pen_ord_5* since it would not be different from the variable *jury_trial*.
[130] The options are: 0 never; 1 in few cases; 2 in some cases; 3 in most cases; 4 in all cases.
[131] The possible values are the same of *pen_ord_overlap*.
[132] Such variables are not used as main explanatory variables, since their coding is more prone to subjective evaluation compared to a simple dummy. Furthermore, in the absence of detailed empirical data for each jurisdiction, they risk of being misleading. Indeed, if the plea-bargaining procedure is applied to crimes punished up to 5 years and the penal order to crimes up to 3 years, the coding of the overlapping factor would be "some cases". However, if 90% of all committed crimes are punished up to 3 years, then a more appropriate measure would be "most cases". However, in the absence of enough empirical data, it is not possible to precisely code such variable, outside of the "no cases" option.
[133] The legal origin of each jurisdiction according to the alternative coding is reported in Appendix A.1.

The dummy variable *muslim_maj* assumes value 1 if a relative majority of the population of a jurisdiction was Muslim in 2009. The variable *muslim* is instead a continuous variable, corresponding to the share of Muslims in the population of a jurisdiction in 2010.[134] Both variables are coded based on the estimates by the Pew Research Center (2011) in the "The Future Global Muslim Population" report.[135]

The dummy *democracy* assumes value 1 if a jurisdiction was a democracy in 2019 and 0 otherwise, while *democracy_5* reports the same values with reference to 5 years before the formalization of plea bargaining, or to 2017 for jurisdictions without plea bargaining. The coding is based on the dataset introduced by Bjørnskov and Rode (2020).[136]

Reliable measures of crime rates are difficult to obtain because many crimes are not reported, especially where the chances of prosecution are perceived as low. To circumvent this problem, homicide rates are commonly employed as proxies for crime rates, since homicides are far more likely to be reported. Furthermore, it is normally assumed that homicide rates correlate with the overall crime levels.[137] The continuous variable *hom_rate* measures the rate of death per 100.000 inhabitants as a consequence of interpersonal violence in 2018, while *hom_rate_5* measures the same rate 5 years before the formalization of plea bargaining, or in 2017 for jurisdictions without a plea-bargaining procedure. The source of both variables is the Global Burden of Disease Study 2019, by the Institute for Health Metrics and Evaluation (2020).[138]

[134] For reasons of data availability, in this case the period 5 years before the introduction of plea-bargaining cannot be use as reference, or the years 2017 and 2018, but just the years 2009 and 2010. However, the share of Muslims in the population can be considered a rather stable variable over time.

[135] For Kosovo and South Sudan, the measures are based on the 2021 Report on International Religious Freedom by the U.S. Department of State. Data for Kosovo are referred to the year 2011, while for South Sudan the reference year is 2020.

[136] Jurisdictions are coded as democracies if they are classified as parliamentary, presidential, and mixed democracies in the Bjørnskov-Rode dataset, and as non-democracies if classified as civilian, military, and royal dictatorship, or as colonies.

[137] Since 1981 the World Value Survey asks whether the respondents or a member of their family were victims of crimes during the previous year. The variable is available for 80 jurisdictions in different years between 1981 and 2021, amounting to 119 observations. A simple OLS analysis shows that homicide rates are positively correlated to the percentage of respondents who were reportedly victims of crimes during the previous year (coefficient 0.330) and with the percentage of respondents whose family members were victims of crimes during the previous year (coefficient 0.678). In both cases the results are statistically significant at the 1% level. The results indicate that homicide rates can be good proxies for overall crime rates.

[138] Since the Global Burden of Disease (GBD) dataset starts from 1990 and *hom_rate_5* refers to years prior to 1990, for the following jurisdictions it was necessary to use national statistics to compute homicide rates: Colombia; Israel; Italy. For the following jurisdictions, the homicide rate from GBD in 1990 was used as a proxy for the true value of *hom_rate_5* since the reference year was in the second half of the 1980s: Cuba; Guatemala; Lesotho. For Hong Kong and Kosovo, homicide rates per 100.000 inhabitants reported by the World Bank were used, since these jurisdictions are not considered in by GBD. For Spain, Philippines, and Sri Lanka, it was not possible to compute the value of *hom_rate_5*.

The variables *hom_rate_sq* and *hom_rate_5_sq* are the squared values or the corresponding variables described above.

Table 3.1. Summary statistics - Binary and continuous variables.

	N	Sum	Mean	SD	Min	Median	Max
pb legal	174	101	0.580	.495	0	1	1
pb rate	52	2287.598	43.992	34.599	.024	42.786	98.928
hom rate	52	406.78	7.823	11.366	.45	2.46	50.43
hom rate 5	170	1213.259	7.137	9.611	.32	3.755	55.37
gdp 2018	52	1260631.7	24242.92	24251.57	793.128	15546.459	116786.51
gdp 5	172	2389280.9	13891.17	22750.98	143.345	4141.013	173612.86
democracy	174	108	0.621	.487	0	1	1
democracy	52	46	0.885	.323	0	1	1
democracy 5	174	102	0.586	.494	0	1	1
muslim maj	174	41	0.236	.426	0	0	1
muslim	174	4428.36	25.450	36.621	0	4.95	100
muslim	52	226	4.346	8.787	.1	1.05	45.2
pen ord	174	52	0.299	.459	0	0	1
pen ord	52	21	0.404	.495	0	0	1
pen ord 5	174	43	0.247	.433	0	0	1
jury trial	174	43	0.247	.433	0	0	1
jury trial	52	16	0.308	.466	0	0	1
year pb	52	981	18.865	19.149	1	16	137

Coming to the material resources of criminal justice systems, these are proxied by GDP per capita. The variable *gdp_2018* reports nominal GDP per capita levels in U.S. dollars in 2018, while the variable *gdp_5* reports nominal GDP per capita levels in US dollars 5 years before the introduction of plea bargaining, or in 2017 for jurisdictions without a plea-bargaining procedure. In order to ensure comparability, all values of *gdp_5* were converted into U.S. dollars of 2017. Both variables are based on estimates by the World Bank.[139] The variables *gdp_2018_sq* and *gdp_5_sq* are the squared values or the corresponding variables described above. More precise measures of the resources invested in a criminal justice system, such as the number of judges, prosecutors, or police officers, are not available for a high enough number of jurisdictions worldwide.[140] Table 3.1. reports descriptive statistics for the binary and continuous variables used in the analysis.[141] For the variables used both in the analysis about plea bargaining formalization and in the analysis of plea-bargaining rates, summary statistics

[139] For Eritrea, Taiwan, and South Sudan, estimates of the International Monetary Fund were used. GDP estimates for the United Kingdom are used with reference to England and Wales, Northern Ireland, and Scotland.
[140] For example, the UN Office on Drugs and Crime reports the number of professional judges per 100.000 in just 28 jurisdictions.
[141] Summary statistics describing the categorical variables related to the legal origins and the level of regulation of the plea-bargaining procedure are reported in Appendix A.4.

are respectively reported with reference to the full sample and to the subsample comprising the 52 jurisdictions for which plea-bargaining rates are known.

3.4. Results

The present section is divided into two subsections. The first identifies which factors influence the probability of a jurisdiction formalizing plea bargaining; the second, which factors correlate with a greater use of plea bargaining in practice.

3.4.1. Factors influencing the probability of formalization of plea bargaining

The results reported in this section are estimated through OLS regressions instead of probit or logit, even if the dependent variable *pb_legal* is a dummy. The reason is that the resulting coefficients are easier to interpret compared to marginal effects based on probit and logit regressions, while being very similar in size (Angrist and Pischke, 2008). Appendix E.1. also report estimates obtained by employing probit and logit models. Results hold regardless of the type of regression adopted.

When considering the influence of legal origins, the English one is used as baseline, given the comparative influence of the U.S. model of plea bargaining, and the traditional opinion that considers common law and the adversarial tradition as naturally conducive to the use of plea bargaining (Langer, 2004; Garoupa and Stephen, 2008; Givati, 2014). Homicide rates and GDP per capita are used as controls throughout all the tables and specifications.

Table 3.2. reports 4 different specifications, using the legal origins classification proposed by La Porta et al. (2008).

Table 3.2. OLS: Formalization of plea bargaining, legal origins by LaPorta et al. (2008)

	(1)	(2)	(3)	(4)	(5)
VARIABLES	pb_legal	pb_legal	pb_legal	pb_legal	pb_legal
hom_rate_5	0.010**	0.004	0.007*	0.007*	0.005
	(0.013)	(0.290)	(0.067)	(0.075)	(0.233)
gdp_5	0.000	-0.000	-0.000	0.000	-0.000
	(0.914)	(0.226)	(0.196)	(0.829)	(0.404)
French	-0.211**				-0.166**
	(0.011)				(0.033)
German	0.175				0.104
	(0.181)				(0.435)
Scandinavian	-0.433*				-0.517**
	(0.070)				(0.019)
Socialist	-0.624				-0.599

	(0.195)				(0.175)
muslim_maj		-0.430***			-0.294***
		(0.000)			(0.001)
democracy_5			0.358***		0.268***
			(0.000)		(0.000)
jury_trial				0.103	0.010
				(0.254)	(0.907)
pen_ord_5				-0.129	-0.101
				(0.173)	(0.269)
Observations	170	170	170	170	170
R-squared	0.121	0.157	0.149	0.052	0.293

Note: *** p<0.01, ** p<0.05, * p<0.1

Specification (1) considers the influence of legal origins alone. In this specification, the homicide rate is positively correlated with the probability of formalizing plea bargaining, and significant at the 5% level. Countries belonging to the French legal origin as well as those belonging to the Scandinavian one are significantly less likely to introduce plea bargaining than countries belonging to the common law legal origin. Specification (2) considers the influence of having a relative majority of Muslims in a country's population, finding a strong negative correlation, significant at the 1% level. In this specification, the homicide rate is no longer significant. Specification (3) instead finds that being a democracy is positively associated with the formalization of plea bargaining, with 1% significance. Specification (4) considers the influence of both penal orders and jury trials, finding no effect. As in specification (3), homicide rates are positively correlated, but only marginally significant.

In specification (5), all factors are jointly included. As before, countries belonging to the French or Scandinavian legal origin are less likely to introduce plea bargaining than countries belonging to the common law legal origin. Having a relative majority of Muslims in the population and being a democracy remain statistically significant at the 1% level, respectively with a negative and a positive sign, but with a small decrease in magnitude.

Table 3.3. OLS: Formalization of plea bargaining, legal origins by Klerman et al. (2011)

VARIABLES	(1) pb_legal	(2) pb_legal	(3) pb_legal	(4) pb_legal	(5) pb_legal
hom_rate_5	0.011***	0.004	0.007*	0.007*	0.006
	(0.007)	(0.290)	(0.067)	(0.075)	(0.142)
gdp_5	0.000	-0.000	-0.000	0.000	-0.000
	(0.832)	(0.226)	(0.196)	(0.829)	(0.439)
French	-0.217**				-0.184**

	(0.016)				(0.029)
German	0.162				0.077
	(0.229)				(0.573)
Scandinavian	-0.450*				-0.545**
	(0.063)				(0.015)
Mixed	-0.205				-0.228
	(0.182)				(0.103)
muslim_maj		-0.430***			-0.302***
		(0.000)			(0.001)
democracy_5			0.358***		0.272***
			(0.000)		(0.000)
jury_trial				0.103	0.014
				(0.254)	(0.861)
pen_ord_5				-0.129	-0.096
				(0.173)	(0.292)
N	170	170	170	170	170
R-squared	0.113	0.157	0.149	0.052	0.291

Note: *** p<0.01, ** p<0.05, * p<0.1

Table 3.3. reports the same specifications as Table 3.2. but adopting the legal origins classification proposed by Klerman et al. (2011). The results are not substantially different from those reported in Table 3.2. and the new Mixed legal origins is never significant. This result in not surprising, since such legal origin is identified by the persisting influence of civil law in the domain of private law, but not in that of criminal procedure.

Table 3.4. OLS: Formalization of plea bargaining, colonial history by Klerman et al. (2011)

VARIABLES	(1) pb_legal	(2) pb_legal	(3) pb_legal	(4) pb_legal	(5) pb_legal
hom_rate_5	0.007*	0.004	0.007*	0.007*	0.002
	(0.067)	(0.290)	(0.067)	(0.075)	(0.606)
gdp_5	-0.000	-0.000	-0.000	0.000	-0.000
	(0.815)	(0.226)	(0.196)	(0.829)	(0.216)
Colony of France	-0.434***				-0.369***
	(0.000)				(0.001)
Colony of French civil law	0.028				0.022
	(0.754)				(0.800)
Colony of other countries	-0.032				-0.034
	(0.868)				(0.851)
Never colonized	-0.100				-0.153
	(0.438)				(0.201)
muslim_maj		-0.430***			-0.327***
		(0.000)			(0.000)
democracy_5			0.358***		0.226***
			(0.000)		(0.003)

jury_trial				0.103	0.063
				(0.254)	(0.449)
pen_ord_5				-0.129	-0.082
				(0.173)	(0.337)
N	170	170	170	170	170
R-squared	0.131	0.157	0.149	0.052	0.303

Note: *** p<0.01, ** p<0.05, * p<0.1

Table 3.4. adopts instead the classification based on colonial history as proposed by Klerman et al. (2011). This classification does not consider the French legal origin as a unitary entity, with significant consequences. Former colonies of France are negatively correlated with the formalization of plea bargaining at the 1% level of significance, while colonies of French civil law countries different from France are not significantly different from former British colonies under this regard. Conversely, when using former French colonies as baseline, the former colonies of other French civil law countries are positively correlated with the formalization of plea bargaining also at the 1% level of significance.[142] Having a Muslim-majority population and being a democracy are again statistically significant at the 1% level, respectively with negative and positive signs.

Table 3.5. reports the same specifications but using my alternative classification of legal origins.

Table 3.5. OLS: Formalization of plea bargaining, Alternative legal origins

	(1)	(2)	(3)	(4)	(5)
VARIABLES	pb_legal	pb_legal	pb_legal	pb_legal	pb_legal
hom_rate_5	0.003	0.004	0.007*	0.007*	0.000
	(0.517)	(0.290)	(0.067)	(0.075)	(0.902)
gdp_5	0.000	-0.000	-0.000	0.000	-0.000
	(0.562)	(0.226)	(0.196)	(0.829)	(0.556)
French	-0.370***				-0.307***
	(0.000)				(0.000)
German	0.091				-0.021
	(0.516)				(0.892)
Scandinavian	-0.513**				-0.589***
	(0.023)				(0.006)
Socialist	0.023				0.040
	(0.847)				(0.718)
Spanish	0.299**				0.142
	(0.025)				(0.279)

[142] When considering former French colonies as baseline, also former British colonies are positively correlated with the formalization of plea bargaining, with 1% statistical significance, but the coefficient's size is even larger for former colonies of other French civil law jurisdictions. The specifications that adopt former French colonies as baseline are reported in Appendix B.1.

muslim_maj		-0.430***			-0.271***
		(0.000)			(0.002)
democracy_5			0.358***		0.229***
			(0.000)		(0.003)
jury_trial				0.103	0.006
				(0.254)	(0.940)
pen_ord_5				-0.129	-0.004
				(0.173)	(0.963)
N	170	170	170	170	170
R-squared	0.234	0.157	0.149	0.052	0.342

Note: *** p<0.01, ** p<0.05, * p<0.1

In Specification (5), in line with previous tables, the French and Scandinavian legal origins are negatively correlated with the formalization of plea bargaining, now with increased statistical significance at the 1% level. The new Socialist and Spanish legal origins are instead not statistically different from the English one. These results support the thesis that French civil law cannot be considered as a unitary tradition when it comes to criminal procedure, in line with the results based on colonial history.[143]

As in previous tables, a relative Muslim majority is negatively correlated with the formalization of plea bargaining, with 1% statistical significance. In line with what expected in theory, this finding suggests that Sharia principles are not particularly favorable to the settlement of criminal cases through plea bargaining. Conversely, in line with previous tables and with theoretical expectations, democracy shows a positive sign, with 1% statistical significance. Such result provides empirical support to the narrative that links the introduction of plea bargaining in Eastern Europe and Latin America with democratization processes and to increased protection of human rights in the domain of criminal procedure (Langer, 2007).[144]

In all tables, in contrast with what is expected in theory, the presence of neither penal orders nor jury trials plays a significant role. Regarding penal orders, this finding can be explained in three ways. First, even if penal orders perform a similar function, lawmakers can still decide to formalize a plea-bargaining procedure as well, in order to provide a wider range of alternatives to an ordinary trial.

[143] It is worth noting that all 20 jurisdictions belonging to the Spanish legal origins in my alternative classification have a formalized plea-bargaining procedure.

[144] Further support in this direction might come from the fact that the Spanish legal origin is positively correlated with the formalization of plea bargaining in Specification (1), with 5% statistical significance, but it is not significant anymore in Specification (5), when controlling for democracy levels.

Second, many jurisdictions in recent decades introduced reforms aimed at establishing adversarial principles in criminal procedure, such as the parity of arms between prosecution and defense or the cross-examination of witnesses.[145] Penal orders appear as the adaptation to modern criminal procedure of typically inquisitorial methods (Nicolucci, 2008), since a criminal conviction results from the sole decision of the prosecuting authority, in a written procedure, often without the necessity of notifying the defendant that some investigation is being carried out against them. Conversely, plea bargaining makes the parties responsible for choosing the procedural method for dealing with their case, even allowing them to negotiate an agreement on punishment, typically in front of a judge who acts as a passive umpire. Hence, plea bargaining is often considered as more coherent with the adversarial ideal of criminal procedure.[146] Thus, even jurisdictions that already allow for the application of penal orders might introduce plea bargaining as a more adversarial alternative to ordinary trials.[147]

Third, and most importantly, penal orders are not perfect functional equivalents of plea bargaining, even if both institutions constitute less costly alternatives to ordinary criminal trials. Indeed, the use of penal orders is always limited to cases of lower gravity, and it generally allows only the imposition of non-custodial sentences. Conversely, plea bargaining, even when its applicability is restricted, can be used to deal with more serious crimes, and it always allows the imposition of prison sentences. Hence, although sharing the same economic rationale, penal orders and plea-bargaining have partially different scopes of applicability, thus constituting non-perfect functional equivalents.

Regarding jury trials, the lack of significance can be explained if the presence of a jury is not the only factor that renders a criminal trial particularly costly. Indeed, since the second half of the last century, and in nearly all jurisdictions, procedural rules have become increasingly complex, in conjunction with the expansion of procedural rights and guarantees accorded to defendants (Thaman, 2010). Hence, the sole presence of a jury is not sufficient for distinguishing between more and less complex criminal trials, as it could be in the past. Unfortunately, in the absence of a specific cross-country index, it is not possible to further test the relationship between trial complexity and the formalization of plea bargaining.

[145] This was the case for Italy (1988), Russia (2001), and Mexico (2014) among many others.
[146] For example, Italian lawmakers considered plea bargaining as a necessary component of any adversarial system of criminal procedure, when regulating it in 1988; see Italian Ministry of Justice (1988).
[147] In some cases, both penal orders and plea bargaining are introduced with the same reform, as in Chile, Greece, and Turkey.

The material resources of a criminal justice system, proxied by GDP per capita, are not significant in any specification. Crime levels, proxied by homicide rates per 100,000 inhabitants, are not significant when controlling for Muslim-majority populations and democracy. Hence, material resources and crime levels do not play a significant role in the formalization of plea bargaining, in contrast with the criminal procedural culture of a jurisdiction, as determined by legal origins, the influence of Sharia, and political regimes.[148]

Appendix E.1. reports the same specifications discussed above while simply classifying jurisdictions as belonging to the common law or civil law families, and to the adversarial or inquisitorial traditions in criminal procedure. Common law jurisdictions are only marginally associated with a greater probability of formalizing plea bargaining while jurisdictions belonging to the adversarial tradition display a greater probability, at the 5% significance level. These results suggest that common law and adversarial tradition are more conducive towards the adoption of plea-bargaining procedures, as commonly assumed, but the divide is not particularly pronounced.

3.4.2. Factors associated with the use of plea bargaining

The dependent variable considered in this subsection is *pb_rate*, corresponding to the percentage of criminal convictions imposed through plea bargaining over the total number of convictions imposed in a jurisdiction in 2019. All estimates are the result of OLS regressions. In this section the alternative classification of legal origins presented above is the only one used in the analysis, since it has produced more precise results compared to other classifications, with regard to criminal procedure traditions. Homicide rates and GDP per capita in 2018 are included as controls throughout all specifications, both in simple and squared forms. To facilitate interpretation of the results, the coefficients referring to GDP per capita are multiplied by 1000.

Specification (1) of Table 3.6. considers only legal factors related to criminal procedure, namely: the level of regulation of plea bargaining[149] and the presence of jury trials and penal orders. Specification (2) considers in addition factors external to the narrow domain of criminal procedure, namely: legal origins; the share of Muslims in the population; if the jurisdiction is a

[148] All results are robust to the use of probit and logit as alternative estimation strategies, as reported in Appendix B.1.

[149] As discussed in Section 3.3.2., the regulation level can be maximal, intermediate, or minimal, and it considers the applicability of plea bargaining, what can be negotiated, and the role of the judge.

democracy; the year in which plea bargaining was formalized. Specification (3) considers both legal and external factors at the same time.

Table 3.6. OLS: Legal and external factors – Alternative legal origins

VARIABLES	(1) pb_rate	(2) pb_rate	(3) pb_rate
hom_rate	2.304*	0.009	0.633
	(0.052)	(0.994)	(0.578)
hom_rate_sq	-0.047*	-0.006	-0.017
	(0.074)	(0.828)	(0.461)
gdp_2018	1.397***	1.911***	1.896***
	(0.005)	(0.001)	(0.000)
gdp_2018_sq	-0.011**	-0.016***	-0.014***
	(0.013)	(0.002)	(0.002)
French		-40.565***	-9.598
		(0.003)	(0.538)
German		-52.880***	-19.129
		(0.000)	(0.211)
Scandinavian		-83.563***	-37.031
		(0.002)	(0.156)
Socialist		8.715	26.663**
		(0.464)	(0.030)
Spanish		24.720**	39.761***
		(0.048)	(0.002)
muslim		0.383	0.383
		(0.426)	(0.371)
democracy		1.301	4.913
		(0.914)	(0.657)
year_pb		-0.231	-0.117
		(0.245)	(0.543)
Regulation level: Min	6.630		14.404*
	(0.441)		(0.091)
Regulation level: Max	-17.938		-17.681*
	(0.113)		(0.083)
pen_ord	-22.046**		-3.339
	(0.024)		(0.749)
jury_trial	19.258**		15.039*
	(0.032)		(0.061)
N	52	52	52
R-squared	0.590	0.662	0.767

Note: *** p<0.01, ** p<0.05, * p<0.1

Crime levels, proxied by homicide rates per 100.000 inhabitants, are only significant when considering factors internal to the criminal justice system, and only at the 10% level. The relationship between criminality and plea bargaining is shaped as a reverse U, with lower plea-bargaining rates observed both in jurisdictions with extremely high and extremely low crime

levels. However, the relationship is not significant when controlling for factors external to the criminal justice system.

Throughout all specifications, GDP per capita is positively associated with plea-bargaining rates in the normal form, while negatively in the squared form, and statistically significant at the 1% level. Hence, as expected in theory, the relationship between GDP per capita and plea-bargaining rates is shaped as a reverse U. The most probable explanation is that the poorest countries of the sample cannot invest enough resources into the criminal justice system, thus leading to the overburdening of prosecutors and courts. The probability of a criminal conviction is then lowered for many criminals, who can reasonably expect to escape punishment at trial; this, in turn, renders the certain punishment following plea bargaining a rather unattractive option. Additionally, even if a conviction is probable, it will only be imposed after a long time at trial, due to the lower pace of work of under-resourced and under-staffed court systems. Defendants might then prefer a conviction in the future compared to a milder conviction in the present, especially considering that higher time discounting rates are strongly associated with criminal behavior (Wilson and Herrnstein, 1985; Åkerlund et al., 2016). Conversely, wealthier jurisdictions might afford to trade off higher resource savings with higher accuracy in adjudication, thus promoting the implementation of full trials for larger proportions of defendants. Such a choice is probably motivated by the consideration that plea bargaining is likely to be associated with higher chances of wrongful convictions compared to ordinary trials (Bibas, 2004; Givati, 2014; Dušek and Montag, 2017).

Coming to legal origins, they turn out to be significant not only for the formalization of plea bargaining, but also for its subsequent use in practice. When considering only factors external to the narrow domain of criminal procedure, the French, German, and Scandinavian legal origins are all strongly and negatively associated with plea-bargaining rates (with 1% significance). In contrast, the Spanish one is associated with higher plea-bargaining rates, and it is significant at the 5% level. However, in the full specification none of the French, German, or Scandinavian legal origins is significantly different from the omitted common law category. Instead, both the Socialist and the Spanish ones are significant and display a positive coefficient, respectively at the 5% and 1% significance level. The significance of both legal origins, even when controlling for regulation levels, seems to confirm the existence of "structures of interpretation and meaning" (Langer, 2004, p.10) related to certain legal traditions. Thus, even if plea-bargaining procedures are regulated in a similar way, and when controlling for the presence of jury trials and penal orders, jurisdictions belonging to the Spanish and Socialist

legal origins witness a greater use of plea bargaining compared to the English tradition. Such a result is especially interesting, since it contrasts with the dominant opinion (Langer, 2004, 2021; Garoupa and Stephen, 2008; Givati, 2014) according to which common law and the adversarial tradition are naturally conducive towards a greater use of plea bargaining in comparison to jurisdictions of inquisitorial tradition.

While a majoritarian Muslim population plays a significant role in the formalization of plea bargaining, the share of Muslims in the population is never significantly associated with plea-bargaining rates. A possible explanation is that, where Islam is not the majoritarian religion, Sharia values cannot significantly influence the behavior of Muslim citizens towards criminal procedural choices. An alternative explanation is that the share of Muslims in the population of the jurisdictions analyzed is too low to influence the overall plea-bargaining rate.

Being a democracy, while playing a positive and significant role in the formalization of plea bargaining, does not influence its subsequent use in practice. As pointed out in Section 3.2.10., it is possible to argue in favor of a greater use of plea bargaining in both autocracies and democracies, but the empirical analysis does not provide clear support in any direction.

The year of formalization of the procedure is not significant in any specification. Such a result can be explained in two ways. First, having a plea-bargaining procedure for a longer time does not modify the structures of interpretation and meaning of the relevant actors, neither is it associated with a significant learning effect. However, if this is the main explanation, it is possible that the results are contingent on the characteristics of the employed sample. Thus, in some years from now, we may observe that the introduction of plea bargaining has modified the structure of interpretation and meaning proper of certain legal traditions, thus resulting in higher plea-bargaining rates. Second, in many jurisdictions the formalization of a plea-bargaining procedure has only taken place years or even decades after the emergence of a related informal practice.[150] Hence, the year of formalization of the procedure might not constitute a good indicator of the age of the procedure itself. However, it is also the only reliable data point in this regard, given the many difficulties in pinpointing the origin of informal practices, or the moment in which they became widespread, especially in a cross-county setting.

[150] For example, in the U.S. the use of plea bargaining was already widespread at the beginning of the 20th century, but the procedure was not formalized until 1970; see Alschuler (1979) and Langbein (1979). Similarly, the practice of *Absprachen* originated in Germany in the late 1970s, but a formal regulation was only approved in 2009; see Rauxloh (2011).

In the full specification, the regulation level of plea bargaining is a marginally significant factor as well. In particular, a minimal regulation is associated with an increase of 14 percentage points in the use of plea bargaining compared to an intermediate level. Conversely, a maximal level of regulation is associated with a decrease of nearly 18 percentage points in plea-bargaining rates. Both results are statistically significant at the 10% level and in line with theory. Indeed, a minimal level of regulation allows the use of plea bargaining in a larger number of cases and reduces the size of transaction costs.[151]

When controlling for legal origins and other external factors, the presence of both penal orders and jury trials drops in significance. In particular, penal orders are not significant in the full specification. Such a result seems to confirm that plea bargaining and penal orders are not perfect functional equivalents, despite the shared objective of reducing the number of fully contested criminal trials. Regarding the presence of jury trials, in the full specification it is only statistically significant at the 10% level, and it is associated with an increase of nearly 15 percentage points in the use of plea bargaining. Despite the lower statistical significance, such result is in line with theory, and with the common opinion that links jury trials with an increased demand for plea bargaining (Ortman, 2020).

As reported in Appendix E.2., all the results of Table 3.6. are robust to the use of overlapping factors of both jury trials and penal orders, instead of the dummy variables *pen_ord* and *jury_trial*.[152] Appendix E.2. also reports the same specifications while adopting a minimal categorization of jurisdictions that only distinguishes between common law and civil law, and between adversarial and inquisitorial traditions. In line with the results based on my classification of legal origins, and contrary to the current dominant opinion, both common law and the adversarial tradition are associated with a lower use of plea bargaining in practice, with 5% statistical significance, when controlling for the level of regulation of the procedure.

[151] Transaction costs are lower since the parties are allowed to the negotiate more elements of the agreements, while the involvement of other actors, such as judges and victims, is limited or excluded.

[152] The significance of material resources, legal origins, regulation levels and the presence of jury trials is also confirmed when excluding South Africa from the sample. As discussed in Section 3.3. the plea-bargaining rate in South Africa is referred to the formalized plea-bargaining procedure regulated by Sec. 105A of the Criminal Procedure Act, but the older and informal procedure governed by Sec. 112 is probably the most used in practice (Adelstein, 2019). Indeed, South Africa is an outlier within the English legal origin, having a plea-bargaining rate of just 0,98%.

3.5. Conclusion

By employing cross-country regressions, the present chapter has tried to answer the following two research questions:

a) which factors determine whether a jurisdiction will formalize plea bargaining or not?

b) which factors drive the different levels of use of plea bargaining observed in practice across different jurisdictions?

In both cases, the empirical analysis has been based on the novel dataset on administratization methods introduced in Chapter 2.

The relationship between certain factors and the probability of formalizing plea bargaining has been analyzed with reference to 170 jurisdictions, by considering the legal regulation of plea-bargaining procedures in 2022. The analysis has shown that legal origins, the influence of Sharia, and being a democracy play a significant role. In particular, when considering common law as the baseline category, the French and Scandinavian legal origins are associated with a decrease of respectively 31 and 59 percentage points in the probability of formalizing plea bargaining. The influence of Sharia, proxied by having a Muslim-majority population, is associated with a drop of nearly 30 percentage points in the probability of formalizing plea bargaining, while being a democracy with an increase of more than 20 percentage points. All results are significant at the 1% level, and robust to the adoption of OLS, logit, and probit estimations.

The relationship between certain factors and the use of plea bargaining in practice has been explored instead with reference to 52 jurisdictions in 2019. First, the results of cross-country OLS regressions have shown that both very high and very low levels of GDP per capita are associated with lower plea-bargaining rates. Second, in line with the legal literature about the emergence and diffusion of plea bargaining in the U.S. (Alschuler, 1979; Langbein, 1979; Ortman, 2020) the presence of jury trials is associated with an increase of 15 percentage points in the use of plea bargaining. Finally, legal origins correlate with different plea-bargaining rates, when considering common law as the baseline category. In particular, the Socialist legal origin is associated with an increase of 27 percentage points in plea-bargaining rates, and the Spanish one with an increase of 40 percentage points. These results seem to confirm the existence of "structures of interpretation and meaning" (Langer, 2004, p.10) typical of different legal traditions, which shape the procedural choices of individuals, even in the presence of similar regulatory frameworks. Furthermore, both results seem to disprove the dominant opinion which

considers common law and the adversarial tradition as associated with a greater use of plea bargaining (Langer, 2004, 2021; Garoupa and Stephen, 2008; Givati, 2014) compared with jurisdictions of inquisitorial tradition.

When interpreting the results presented in the present Chapter, it is worth considering the limitations that affected the analysis. Those limitations can be grouped into four categories.

First, the results discussed above cannot directly support any causal claim, being the outcome of correlational analyses. However, they can be considered as exploratory results that set the direction of future research (Engel, 2021) while "narrowing down the set of plausible theories" (Spamann, 2015, p.138).

Second, data availability constitutes a major source of limitations, and probably the main reason why "the empirical study of plea bargaining […] around the globe is still in its infancy" (Langer, 2021, p.385). Indeed, it was possible to compute plea-bargaining rates only for 52 jurisdictions out of the 102 that allow for plea bargaining, and the analysis is limited to the year 2019. Furthermore, plea-bargaining rates are mainly available for Europe and rather wealthy countries, but not for poorer countries and especially African ones. Hence, the results discussed above could differ when considering a different sample. However, it does not seem possible to build a very different dataset to date, and the one employed in this chapter constitutes the most comprehensive one so far, and the only useful one for cross-country comparisons, being referred to one single year.[153] Limitations in data availability also affect other variables employed in the analysis, such as criminality level, proxied by homicide rates, or the material resources of criminal justice systems, proxied by GDP per capita.

Third, the present research adopts a cross-country perspective, which necessarily overlooks country-specific factors.[154]

Fourth, some factors identified as relevant in the literature have not been tested in the present chapter. One reason is that there is not enough variation in the variables of interest in the employed sample, as in the case of the election of prosecutors or the legality of the death penalty. Another reason is that a cross-country setting does not fit the test of certain hypotheses, such as the impact of pretrial detention and of psychological biases. A final reason is again the

[153] As mentioned above, only two other studies report plea-bargaining rates for different countries, to the best of my knowledge. Fair Trials (2017), which also considers cooperation agreements, reports plea-bargaining rates for 20 jurisdictions, without considering them all in a single year, but spanning from 2005 to 2014. Langer (2021) compute plea-bargaining rates for 26 jurisdictions, but without considering a single year for all and spanning from 2013 to 2017.

[154] This limitation will be overcome with reference to Italy in Chapters 4 and 5.

scarcity of available data, as for the share of defendants represented by publicly appointed lawyers, the density of lawyers, the complexity of criminal trials, conviction rates at trial in jurisdictions with and without plea bargaining, or imprisonment rates.

Since the results presented in this chapter cannot be used to directly support causal claims, one possible direction of future research is the identification of appropriate settings for inferring causality. Such settings can also be found at within-country level, considering the documented variation in the use of plea bargaining across different regions (Boari and Fiorentini, 2001; Altenhaim et al., 2013; Soubise, 2018). A further line of inquiry can test the effects of different plea-bargaining rates upon several outcome variables, such as crime rates, clearance rates, or expenditure in the criminal justice system. Finally, future research might aim at improving the quality and coverage of the dataset employed, by exploring the use of plea bargaining in a larger number of jurisdictions and across different periods of time.

Appendix D Data

D.1. Jurisdictions with plea bargaining (N = 101)

Jurisdiction	Year and act of first regulation	Name	Sources of data for p.b. rates	Regulation level	Legal origin
Albania	2017 Act 35/2017 amending Code of Criminal Procedure	Judgement upon agreement (Gjykimi me marrëveshje)	NA	Max	French
Argentina	1997 Act 24.825 of 1997 amending Code of Criminal Procedure	Abbreviated judgement (Juicio abreviado)	E-mail on 01.06.2022 from Oficina de Estadísticas - Dirección General de Planificación - Consejo de la Magistratura	Min	Spanish
Armenia	2021 Code of Criminal Procedure, approved on 27/07/2021 (into force since 2022)	Consent procedure (ՀԱՄԱՁԱՅՆԵ ՑՄԱՆ ՎԱՐՈՒՅԹԸ)	NAP	Max	Socialist
Australia	1996 Maxwell v The Queen - [1996] HCA 46	Plea negotiations or Plea bargaining	Annual Report 2019-2020 – Australia's Federal Prosecution Service	Min	English
Bahamas	2008 Act 32/2008, Criminal Procedure (Plea Discussion and Plea Agreement) Act	Plea Agreements	NA	Min	English
Belgium	2016 Act of 5 February 2016 modifying Criminal Law and Criminal Procedure	Prior admission of guilt (Reconnaissance préalable de culpabilité)	NA	Max	French
Belize	1998 Indictable Procedure Act 18 of 1998	Plea of guilty to different charge	NA	Min	English
Bhutan	2001	Plea bargain	NA	Min	English

	The Civil and Criminal Procedure Code of Bhutan, 2001				
Bolivia	2000 Act 1970/1999 approving Code of Criminal Procedure	Abbreviated procedure (Procediemiento abreviado)	Anuario Estadístico Judicial 2019 – Consejo de la Magistratura	Med	French
Bosnia and Herzegovina	2003 Act 3/2003 approving Code of Criminal Procedure	Plea bargaining (Pregovaranje o krivnji)	Justice statistics 2019 – Institute for Statistics of FBiH	Med	French
Bulgaria	2000 Code of Criminal Procedure, 2000	Settlement of the case by agreement (Решаване На Делото Със Споразумение)	Email from National Statistical Institute on 24.06.2022	Min	Socialist
Burundi	2018 Act n.1/09 of 2018 modifying the Code of Criminal Procedure	Guilty plea procedure (Procédure d'aveu et de plaidoyer de culpabilité)	NA	Med	French
Canada (Québec)	1995 R. v. Burlingham, [1995] 2 S.C.R. 206	Guilty plea procedure / Pladoyer de culpabilité	Email from Ministère de la Justice du Québec – Direction du Bureau du sous-ministre et du Secrétariat general on 17.11.2022	Min	English (LeMay, 1992)
Chile	2000 Act 19696 of 2000 approving Code of Criminal Procedure	Simplified procedure and Abbreviated procedure (Procedimiento abreviado and Procedimiento simplificado)	Email from Fiscalìa Nacional on 29.06.2022	Min	Spanish
China	2018 Amendment to Code of Criminal Procedure on 26/10/2018	Leniency System for Pleas of Guilty and Punishment 认罪认罚从宽制度	For plea agreements: Data provided by Xiaoge Dong, retrieved from the Annual Report of the Supreme Court 2020. For criminal convictions:	Min	Socialist

			"China's criminal justice system in the Age of Covid" Report, by Safeguard Defenders (2022).		
Colombia	1991 Decreto 2700/1991	Pre-trial agreements and negotiations (Preacuerdos y negociaciones)	Informe De Estadísticas Del Sistema Penal Oral Acusatorio SPOA 2020, by Corporación Excelencia en la Justicia	Min	Spanish
Costa Rica	1996 Act 7594/1996 approving Code of Criminal Procedure	Abbreviated procedure (Procediemiento abreviado)	Email from Poder Judicial – Subproceso de Estadìsticas, on 05.07.2022	Med	Spanish
Cote d'Ivoire	2018 Act 2018-975 approving Code of Criminal Procedure	Appearence upon prior admission of guilt (Comparution sur reconnaissance préalable de culpabilité)	NA	Max	French
Croatia	2002 Act 58/2002 approving Code of Criminal Procedure	Judgment based on agreement of the parties (Presuda na temelju sporazuma stranaka)	Adult Perpetrators of Criminal Offences, Reports, Accusations and Convictions, 2019 by Croatian Bureau of Statistics	Med	German
Cuba	1994 Act 151/1994 amending Code of Criminal Procedure	Abbreviated procedure (Procediemiento abreviado)	NA	Max	Socialist
Czech Republic	2012 Act 193/2012 amending Code of Criminal Procedure	Agreement on guilt and punishment (Dohoda o vině a trestu)	Email from Ministry of Justice of the Czech Republic - Judicial Analysis and Statistics Unit, on 03.01.2023	Max	German
Dominican Republic	2007 Code of Criminal Procedure 2007	Abbreviated criminal trial (Procediemiento penal abreviado)	Email from Oficina de Acceso a la Información Pública - Consejo del Poder	Min	Spanish

			Judicial, on 01.11.2022		
Ecuador	2000 Act 360/2000 approving Code of Criminal Procedure	Abbreviated trial (Procediemiento abreviado)	NA	Max	Spanish
El Salvador	1996 Act 904/1996 approving Code of Criminal Procedure (into force since 1998)	Abbreviated criminal trial (Procediemiento penal abreviado)	Movimiento Ocurrido en las Instancias con Competencia Penal Adulto - Enero a Diciembre 2019 by Dirección de Planificación Institucionalunidad de Información y Estadística	Med	Spanish
England and Wales	2005 R v Goodyear [2005] EWCA Crim 888	Guilty plea agreements	Criminal Justice System Statistics publication: Prosecutions and Convictions, by Ministry of Justice	Min	English
Equatorial Guinea	1967 Adoption of Spanish Criminal Procedure Law after independence	Conformity [with the prosecutor's case] (Conformidad)	NA	Max	Spanish
Estonia	2003 Code of Criminal Procedure 2003	Arrangement procedure (Kokkuleppemenetlus)	For plea agreements: Summary of Procedure Statistics of First and Second Instance Courts 2019 (Esimese ja Teise Astme Kohtute Menetlusstatistika 2019. A Koondandmed). For criminal convictions: UNECE Statistical Database - Convictions by age category and sex of offender	Max	Socialist
Fiji	2009	Plea agreement	NA	Min	English

	Criminal Procedure Act 2009				
Finland	2015 Act 22.8.2014/670	Confession proceeding (Tunnustamisoike udenkäynti)	For plea agreements: Email from Institute of Criminology and Legal Policy Faculty of Political Science University of Helsinki, on 06.09.2022. For criminal convictions: Statistics Finland, Prosecutions, sentences, and punishments - Persons sentenced in court, summary penal fines and petty fines, total (number)	Max	Scandinavian
France	2004 Act 2004-204 amending Code of Criminal Procedure	Appearance on prior admission of guilt (Comparution sur reconnaissance préalable de culpabilité, CRPC)	"Les condamnations - Années 2019 et 2020", by Ministère de la Justice	Max	French
French Guyana	2004 Act 2004-204 amending Code of Criminal Procedure	Appearance on prior admission of guilt (Comparution sur reconnaissance préalable de culpabilité, CRPC)	"Les condamnations - Années 2019 et 2020", by Ministère de la Justice	Max	French
Gabon	2019 Law 43/2018 approving Code of Criminal Procedure	Appearence upon prior admission of guilt (Comparution sur reconnaissance préalable de culpabilité)	NA	Max	French
Georgia	2004 Act 214/2004 amending Code of Criminal Procedure	Plea agreement (საპროცესო შეთანხმება)	Dynamic of hearing criminal cases at the Common Courts of Georgia, by National Statistics Office of Georgia	Min	Socialist

Germany	2009 Act 49/2009 amending Code of Criminal Procedure	Negotiated agreement (Verständigung)	Rechtspflege – Strafgerichte, 2019, by Statistisches Bundesamt	Max	German
Ghana	2022 Act 1079/2022	Plea bargaining	NAP	Min	English
Greece	2019 Act 4620/2019 approving Code of Criminal Procedure	Criminal bargaining (Ποινική διαπραγμάτευση)	NA	Med	French
Guatemala	1992 Act 51/1992 approving Code of Criminal Procedure	Abbreviated trial (Procediemiento abreviado)	Informe Annual 2019-2020, by Ministerio Pùblico	Max	Spanish
Guyana	2009 Act 18/2008	Plea agreement	NA	Max	English
Honduras	1999 Act 9/1999 approving Code of Criminal Procedure	Abbreviated trial (Procediemiento abreviado)	Boletìn Estadistìco 2019, by Poder Judicial de Honduras	Min	Spanish
Hong Kong	2013 Prosecution Code, 2013	Plea Negotiation and Agreement	NA	Min	English
Hungary	2000 Hungarian Criminal Procedure Act of 1 March 2000	Settlement (egyezség) and Measured proposal (mértékes indítvány)	For plea agreements: Prosecutor's Office Statistics Information (Criminal Law Branch) - The 2019. Annual Activity. For criminal convictions: Criminality and Criminal Justice 2020, published by the Office of the Prosecutor General	Med	German
India	2005 Criminal Law (Amendment) Act, 2005	Plea bargaining	Crime in India 2019, by National Crime Records Bureau (Ministry of Home Affairs)	Min	English
Ireland	2001 (DPP) v Heeney [2001] 1 IR 736	Sentence discount in case of guilty plea	Courts Service's Annual Report 2019	Min	English

Israel	1972 Bahmoutzki (1972) 26(i) P.D. 543	Plea bargain (הסדר טיעון)	Email from Department of Justice, following FOIA request, on 18.10.2022	Min	English
Italy	1988 Act 447/1988 approving Code of Criminal Procedure (into force since 1989)	Plea bargaining (Patteggiamento), formally Application of sentence upon parties' request (Applicazione della pena su richiesta delle parti)	Email from Ministero della Giustizia – Direzione Generale Statistiche, on 22.12.2022	Max	French
Jamaica	2006 Plea Negotiations and Agreements Act (2017)	Plea Negotiations and Agreements	Parish Courts of Jamaica - The Chief Justice's Annual Statistics Report for 2019	Min	English
Kazakhstan	2014 Act 231-V of 2014 approving Code of Criminal Procedure	Procedural agreement in the form of a plea bargaining (Кінәні мойындау туралы мәміле нысанында процестік келісімді)	NA	Med	Socialist
Kenya	2008 Act 11 of 2008	Plea agreeement	NA	Min	English
Kosovo	2008 Act 04/L-123 of 2008 approving Code of Criminal Procedure	Plea agreement (Negocimi i marrëveshjes mbi pranimin e fajësisë)	NA	Med	French
Kyrgyzstan	2017 Act 20/2017 approving Code of Criminal Procedure (into force since 2019)	Plea agreement (Күнөөнү мойнуна алуу жөнүндө процессуалдык макулдашуу)	NA	Min	Socialist
Latvia	2004 Law of 19 February 2004 amending the Code of Criminal Procedure	Pretrial agreement (Vienošanās piemērošana pirmstiesas kriminālprocesā) and Agreement during court proceedings (Vienošanos	Email from The Court Administration of Latvia, on 17.11.2022	Med	Socialist

		iztiesāšanas procesā)			
Lesotho	1988 Rex v. Theese Phooko, Criminal Case No. 278 of 1988	Plea bargaining	NA	Min	English
Luxembourg	2015 Law of 24 February 2015 amending the Code of Criminal Procedure	Judgement upon agreement (Jugement sur accord)	La Justice en Chiffres 2019	Max	French
Malawi	2010 Act 14 of 2010	Plea bargaining	NA	Min	English
Malaysia	2010 Criminal Procedure Code (Amendment) Act 2010	Plea bargaining	NA	Min	English
Maldives	2014 Act 9/2014	(އިޢުތިރާފުގެ އެއްބަސްވުން) Confession agreement	NA	Min	English
Malta	2002 Act III of 2002 amending the Code of Criminal Procedure	Sentence at the request of the parties	NA	Med	English
Mexico	2008 Reform of 19 June 2008	Abbreviated trial (Procediemiento abreviado)	E-mail from Instituto Nacional de Estadística y Geografía (INEGI), on 01.08.2022	Med	Spanish
Moldova	2003 Act 122/2003 approving Code of Criminal Procedure	Acknowledgemen t of guilt (Recunoasterea vinovatiei)	E-mail from National Bureau of Statistics of the Republic of Moldova, on 21.07.2022	Med	Socialist
Mongolia	2015 Code of Criminal Procedure, 2015	Simplified procedure (Хялбаршуулсан Журмаар)	NA	Med	German
Montenegro	2009 Act 57/09 approving Code of Criminal Procedure	Plea agreement (Sporazum o priznanju krivice)	NA	Max	French
Nepal	2017	Plea agreement	NA	Med	English

	Act 37/2017 approving Code of Criminal Procedure				
New Zealand	2011 Criminal Procedure Act 2011	Sentence indications	E-mail from Ministry of Justice | Tāhū o te Ture, on 12.09.2022	Min	English
Nicaragua	2001 Act 406/2001 approving Code of Criminal Procedure	Agreements (Acuerdos)	NA	Min	Spanish
Niger	2007 Act 2007-04 of 22 February 2007	Appearence upon prior admission of guilt (Comparution sur reconnaissance préalable de culpabilité)	NA	Max	French
Nigeria	2015 Administration of Criminal Justice Act 2015	Plea agreement	NA	Max	English
North Macedonia	2010 Act 150/2010 approving Code of Criminal Procedure	Entering judgement based on settlement (Донесување на пресуда врз основа на спогодба)	State Statistical Office of the Republic of Macedonia	Med	French
Northern Ireland	1994 R v. Connolly [1994] NIJB 226	Reduction in sentence for guilty pleas	Judicial Statistics 2019, by Northern Ireland Courts and Tribunals Service	Min	English
Panama	2008 Act 63/2008 approving Code of Criminal Procedure	Sentence agreements (Acuerdos de Pena)	Estadisticas Judiciales, by Procuradorìa General de la Nación	Med	Spanish
Papua New Guinea	2006 Prosecution Policy, 2006	Plea bargaining	NA	Min	English
Paraguay	1998 Act 1286/1998 approving Code of Criminal Procedure	Abbreviated trial (Procediemiento abreviado)	E-mail from Dirección de Transparencia y Acceso a la Información Pública - Corte Suprema de Justicia, on 07.02.2023	Med	Spanish

Peru	2004 Act 957/2004 approving Code of Criminal Procedure (into force since 2006)	Early termination process (Proceso de terminación anticipada)	NA	Max	Spanish
Philippines	1940 1940 Rules of Courts	Plea to a lesser offense or Plea bargaining	NA	Min	English
Poland	1997 Act 89 of 6 June 1997 approving Code of Criminal Procedure	Sentence without trial (Skazanie bez rozprawy) and Voluntary surrender of sentence (Dobrowolne poddanie się karze)	E-mail from Wydział Statystycznej Informacji Zarządczej Departament Strategii i Funduszy Europejskich, on 15.07.2022	Med	German
Romania	2010 Act 135/2010 approving Code of Criminal Procedure	Agreement upon acknowledgement of guilt (Acord de recunoaștere a vinovăției)	E-mail from Ministerul Public, on 22.06.2022	Med	French
Russia	2001 Act 147-FZ of 18/12/2001 approving Code of Criminal Procedure	Special order of court proceeding (Особый порядок судебного разбирательства)	Report on the Work of the Courts of General Jurisdiction in Reviewing Criminal Cases in the First Instance, 2019	Min	Socialist
Rwanda	2022 Law 27/2019 and Practice Directions of the President of the Supreme Court 2/2023	Plea bargaining	NA	Min	German
San Marino	2022 Act 24/2022 amending Code of Criminal Procedure	Plea bargaining (Patteggiamento)	NAP	Max	French
Scotland	1995 Criminal Procedure (Scotland) Act 1995	Sentence discounting	For guilty pleas: Email from Scottish Courts and Tribunals Service Headquarters upon FOI request, on 09.08.2022.	Min	English

			For criminal convictions: Criminal Proceedings in Scotland, 2019-20, available at https://www.gov.scot/publications/criminal-proceedings-scotland-2019-20/pages/9/		
Serbia	2009 Act 72/2009 approving Code of Criminal Procedure	Plea agreement (Sporazum o priznanju krivičnog dela)	Republic PPO, the Offical Report published on rjt.gov.rs	Min	French
Singapore	2011 Creation of Criminal Case Resolution (CCR) program on October 10, 2011	Plea agreement	NA	Min	English
Slovakia	2005 Act 301/2005 approving Code of Criminal Procedure (into force since 2006)	Plea agreement (Dohoda o vine a treste)	E-mail from Analytické centrum Ministerstvo spravodlivosti SR, on 22.12.2022	Min	German
Slovenia	2011 Act 91/2011 amending Code of Criminal Procedure	Plea agreement (Sporazum o priznanju krivde)	Email from Office for Court Management Development – Supreme Court of Slovenia, on 31.01.2023	Min	German
Solomon Islands	2009 Prosecution Policy, 2009	Plea to a lesser offense or Plea bargaining	NA	Min	English
South Africa	2001 Act 62/2001 amending Criminal Procedure Act	Plea and sentence agreements	Annual Report by National Prosecution Authority 2019-2020	Min	English
Spain	1882 Royal Decree of 14 September 1882 approving Code of	Acceptance of charges (Conformidad)	Estadística Judicial by Poder Judicial de España	Max	Spanish

	Criminal Procedure				
Sri Lanka	1979 Attorney General v Mendis [(1995) 1 Sri L.R 138]	Plea to a lesser offense or Plea deal	NA	Min	English
Switzerland	2007 Swiss Code of Criminal Procedure of 5 October 2007	Abbreviated procedure (Procédure simplifiée Procedura abbreviata Abgekürztes Verfahren)	Compte rendu de l'activité du Pouvoir judiciaire en 2019, by Commission de gestion du Pouvoir judiciaire	Max	German
Taiwan	2004 President Hua Zongyizi's order of 7 April 2004	The bargaining process (協商程序)	For number of plea agreements: Results of Judgments and Rulings of Criminal First Instance Plea Bargaining Procedure Cases by the District Courts by Year. For criminal convictions: Number of Persons Sentenced in Criminal First Instance Cases Terminated by the District Courts by Year.	Max	German
Tanzania	2021 The Criminal Procedure (Plea Bargaining Agreement) Rules, 2021	Plea bargaining	NAP	Min	English
Tonga	2001 Act 17/2001, amending Criminal Offences Act	Plea to a lesser offense or Plea bargaining	NA	Min	English
Trinidad and Tobago	2017 Act 12/2017	Plea agreement	NA	Min	English
Turkey	2019 Act 7188 of 17 October 2019 amending Code	Expedited procedure (Seri muhakeme usulü)	NAP	Med	French

	of Criminal Procedure (into force since 2020)				
Uganda	2016 The Judicature (Plea Bargain) Rules, 2016	Plea bargaining	For number of plea agreements: Judiciary of The Republic of Uganda - Rapid Institutional and Economic Assessment 2020. For criminal convictions: Uganda Police Annual Crime Report 2019.	Min	English
Ukraine	2012 Law 4651-VI of April 13, 2012 approving Code of Criminal Procedure	Plea agreement between the prosecutor and the suspect or accused (угода між прокурором та підозрюваним чи обвинуваченим про визнання винуватості)	For number of plea agreements: General indicators of court proceedings by the court of first instance. For number of criminal convictions: Analysis of the state of implementation justice in criminal proceedings and cases on administrative offenses in 2019	Max	Socialist
United Arab Emirates	2022 Federal Decree-Law No. 38 of 2022 approving Code of Criminal Procedure (into force since 2023)	Criminal settlement التسوية الجزائية	NAP	Max	English
United States of America	1970 Brady v. United States, 397 U.S. 742 (1970)	Plea bargaining	Federal Justice Statistics, 2019	Min	English
Uruguay	2017 Code of Criminal Procedure 2017 N° 19293	Abbreviated trial (Procediemiento abreviado)	Procesos penales 2019, CPP 2017 - Estudio sobre procesos concluidos en los Juzgados	Med	Spanish

			Letrados con competencia en materia CPP 2017		
Uzbekistan	2020 Act No. UP-6041 of 10 August 2020 (into force since 2021)	Plea agreement (Aybga iqrorlik to‘g‘risidagi kelishuv)	NAP	Max	Socialist
Vanuatu	2018 Prosecution Guidelines, 2018	Charge negotiation	NA	Min	English
Venezuela	1998 Act 5208 of 23 January 1998 approving Code of Criminal Procedure (into force since 1999)	Guilty plea procedure (Procedimiento por admisión de los hechos)	NA	Max	Spanish
Zambia	2010 Act 20/2010, Plea Negotiations and Agreements Act	Plea agreement	NA	Min	English

D.2. Jurisdictions for which the plea-bargaining rate in 2019 is known (N = 52)

Argentina, Australia, Bolivia, Bosnia and Herzegovina, Bulgaria, Canada, Chile, China, Colombia, Costa Rica, Croatia, Czech Republic, Dominican Republic, El Salvador, England and Wales, Estonia, Finland, France, Georgia, Germany, Guatemala, Honduras, Hungary, India, Ireland, Israel, Italy, Jamaica, Latvia, Luxemburg, Mexico, Moldova, New Zealand, North Macedonia, Northern Ireland, Panama, Paraguay, Poland, Romania, Russia, Scotland, Serbia, Slovakia, Slovenia, South Africa, Spain, Switzerland, Taiwan, Uganda, Ukraine, United States, Uruguay.

D.3. Limitations in the computation of plea-bargaining rates

Data limited to certain types of courts: for Bolivia, data are only available for *Tribunales de Sentencia Penal*, *Anticorrupción y de Violencia Contra la Mujer*, which deal with corruption crimes and ordinary crimes punishable with 4 or more years of imprisonment; for England and Wales, data are only available with reference to Crown Courts, which deal with more serious cases, while the bulk of criminal cases is processed by Magistrates Courts; in Ireland, data are available for Circuit Courts, which deal with more serious offences, while District Courts

process the majority of cases; for Israel, data are only available for cases prosecuted by prosecutors, and not also for those prosecuted by police prosecution, which mainly deals with petty crimes; for Scotland, data are available only for summary cases, which are decided in Justice of the Peace Courts or Sheriff Courts Summary, and that constitute the great majority of criminal offences.

Data limited to certain territories: for Argentina, Australia, Mexico, and the U.S., only the federal jurisdiction was considered; for Canada, data are only available for the Province of Québec; for Switzerland, only for Canton Geneva; in the case of Paraguay, data are missing for 7 districts out of more than 20.

Data limited to periods of time shorter than one year: for Argentina, data are available only for the first semester of 2019; for Honduras, they are only available for the period between January and October 2019.

D.4. Summary statistics for categorical variables

D.4.1. Legal origins and colonial history, complete sample (N = 174)

D.4.1.a. Legal origins by La Porta et al. (2008)

legal_orig	Freq.	Percent	Cum.
English	54	31.03	31.03
French	96	55.17	86.21
German	18	10.34	96.55
Scandinavian	5	2.87	99.43
Socialist	1	0.57	100.00
Total	174	100.00	

D.4.1.b. Legal origins by Klerman et al. (2011)

legal_orig	Freq.	Percent	Cum.
English	43	24.71	24.71
French	93	53.45	78.16
German	18	10.34	88.51
Scandinavian	5	2.87	91.38
Mixed	15	8.62	100.00
Total	174	100.00	

D.4.1.c. Colonial history by Klerman et al. (2011)

legal_orig	Freq.	Percent	Cum.
French colonies	25	14.37	14.37
British colonies	48	27.59	41.95
Other colonies of French civil law	70	40.23	82.18
Other colonies	8	4.60	86.78

Never colonized	23	13.22	100.00
Total	174	100.00	

D.4.1.d. Legal origins, alternative classification

legal_orig_alt	Freq.	Percent	Cum.
English	54	31.03	31.03
French	62	35.63	66.67
German	13	7.47	74.14
Scandinavian	5	2.87	77.01
Socialist	20	11.49	88.51
Spanish	20	11.49	100.00
Total	174	100.00	

D.4.1.e. Common law jurisdictions

common_law	Freq.	Percent	Cum.
Civil law	118	67.82	67.82
Common law	56	32.18	100.00
Total	174	100.00	

D.4.1.f. Adversarial tradition

adversarial	Freq.	Percent	Cum.
Inquisitorial	124	71.26	71.26
Adversarial	50	28.74	100.00
Total	174	100.00	

D.4.2. Alternative legal origins, jurisdictions for which pb_rate is known (N = 52)

D.4.2.a. Alternative legal origins

legal_orig_alt	Freq.	Percent	Cum.
English	13	25.00	25.00
French	7	13.46	38.46
German	9	17.31	55.77
Scandinavian	1	1.92	57.69
Socialist	8	15.38	73.08
Spanish	14	26.92	100.00
Total	52	100.00	

D.4.2.b. Common law jurisdictions

common_law	Freq.	Percent	Cum.
Civil law	39	75.00	75.00
Common law	13	25.00	100.00
Total	52	100.00	

D.4.2.c. Adversarial tradition

adversarial	Freq.	Percent	Cum.

Inquisitorial	39	75.00	75.00
Adversarial	13	25.00	100.00
Total	52	100.00	

D.4.3. Regulation level of the plea-bargaining procedure complete sample (N = 101)

Regulation_level	Freq.	Percent	Cum.
Min	49	48.51	48.51
Med	23	22.77	71.29
Max	29	28.71	100.00
Total	101	100.00	

D.4.4. Regulation level of the plea-bargaining procedure, jurisdictions for which pb_rate is known (N = 52)

Regulation_level	Freq.	Percent	Cum.
Min	25	48.08	48.08
Med	15	28.85	76.92
Max	12	23.08	100.00
Total	52	100.00	

Appendix E Empirical analysis

E.1. Formalization of plea bargaining, extensions, and robustness

E.1.1. Extension - Probability of formalizing plea bargaining, OLS

Table 3.7. OLS: Legal origins by Klerman et al. (2011), French colonies as baseline

VARIABLES	(1) pb_legal	(2) pb_legal	(3) pb_legal	(4) pb_legal	(5) pb_legal
hom_rate_5	0.007*	0.004	0.007*	0.007*	0.002
	(0.067)	(0.290)	(0.067)	(0.075)	(0.606)
gdp_5	-0.000	-0.000	-0.000	0.000	-0.000
	(0.815)	(0.226)	(0.196)	(0.829)	(0.216)
British colony	0.434***				0.369***
	(0.000)				(0.001)
Colony of French civil law	0.462***				0.391***
	(0.000)				(0.000)
Other colony	0.402*				0.335*
	(0.054)				(0.080)
Never colonized	0.334**				0.216
	(0.024)				(0.112)
muslim_maj		-0.430***			-0.327***
		(0.000)			(0.000)
democracy_5			0.358***		0.226***
			(0.000)		(0.003)
jury_trial				0.103	0.063
				(0.254)	(0.449)
pen_ord_5				-0.129	-0.082
				(0.173)	(0.337)
N	170	170	170	170	170
R-squared	0.131	0.157	0.149	0.052	0.303

*** p<0.01, ** p<0.05, * p<0.1

Table 3.8. OLS: Formalization of plea bargaining and common law

VARIABLES	(1) pb_legal	(2) pb_legal	(3) pb_legal	(4) pb_legal	(5) pb_legal
hom_rate_5	0.009**	0.004	0.007*	0.007*	0.004
	(0.025)	(0.290)	(0.067)	(0.075)	(0.295)
gdp_5	-0.000	-0.000	-0.000	0.000	-0.000*
	(0.930)	(0.226)	(0.196)	(0.829)	(0.099)
common_law	0.150*				0.147*
	(0.065)				(0.055)
muslim_maj		-0.430***			-0.332***
		(0.000)			(0.000)
democracy_5			0.358***		0.280***
			(0.000)		(0.000)

jury_trial				0.103	0.014
				(0.254)	(0.866)
pen_ord_5				-0.129	-0.035
				(0.173)	(0.688)
N	170	170	170	170	170
R-squared	0.050	0.157	0.149	0.052	0.246

*** p<0.01, ** p<0.05, * p<0.1

Table 3.9. OLS: Formalization of plea bargaining and adversarial tradition

VARIABLES	(1) pb_legal	(2) pb_legal	(3) pb_legal	(4) pb_legal	(5) pb_legal
hom_rate_5	0.009**	0.004	0.007*	0.007*	0.004
	(0.025)	(0.290)	(0.067)	(0.075)	(0.266)
gdp_5	0.000	-0.000	-0.000	0.000	-0.000
	(0.919)	(0.226)	(0.196)	(0.829)	(0.129)
adversarial	0.251***				0.179**
	(0.003)				(0.030)
muslim_maj		-0.430***			-0.309***
		(0.000)			(0.000)
democracy_5			0.358***		0.271***
			(0.000)		(0.000)
jury_trial				0.103	0.006
				(0.254)	(0.938)
pen_ord_5				-0.129	-0.015
				(0.173)	(0.869)
N	170	170	170	170	170
R-squared	0.082	0.157	0.149	0.052	0.251

*** p<0.01, ** p<0.05, * p<0.1

E.1.2. Probability of formalizing plea bargaining, probit

Table 3.10. Probit: Marginal effects, legal origins by LaPorta et al. (2008)

VARIABLES	(1) pb_legal	(2) pb_legal	(3) pb_legal	(4) pb_legal	(5) pb_legal
hom_rate_5	0.011**	0.005	0.008*	0.009*	0.005
	(0.012)	(0.268)	(0.057)	(0.066)	(0.254)
gdp_5	0.000	-0.000	-0.000	0.000	-0.000
	(0.901)	(0.266)	(0.224)	(0.795)	(0.467)
French	-0.212***				-0.154**
	(0.008)				(0.047)
German	0.165				0.110
	(0.109)				(0.348)
Scandinavian	-0.429**				-0.439**

	(0.048)				(0.017)
Socialist	-				-
muslim_maj		-0.393***			-0.254***
		(0.000)			(0.001)
democracy_5			0.331***		0.240***
			(0.000)		(0.000)
jury_trial				0.104	0.002
				(0.244)	(0.975)
pen_ord_5				-0.121	-0.122
				(0.182)	(0.173)
N	169	170	170	170	169
Pseudo R-squared	0.092	0.119	0.116	0.041	0.232

Note: The Socialist legal origin is empty because it included only one jurisdiction in our sample (Myanmar), hence its influence on the probability of formalizing plea bargaining cannot be estimated by using a probit model. *** p<0.01, ** p<0.05, * p<0.1

Table 3.11. Probit: Marginal effects, legal origins by Klerman et al. (2011)

VARIABLES	(1) pb_legal	(2) pb_legal	(3) pb_legal	(4) pb_legal	(5) pb_legal
hom_rate_5	0.012***	0.005	0.008*	0.009*	0.006
	(0.006)	(0.268)	(0.057)	(0.066)	(0.128)
gdp_5	0.000	-0.000	-0.000	0.000	-0.000
	(0.825)	(0.266)	(0.224)	(0.795)	(0.499)
French	-0.216**				-0.178**
	(0.012)				(0.028)
German	0.155				0.075
	(0.147)				(0.533)
Scandinavian	-0.441**				-0.468**
	(0.041)				(0.011)
Mixed	-0.198				-0.246*
	(0.199)				(0.068)
muslim_maj		-0.393***			-0.264***
		(0.000)			(0.000)
democracy_5			0.331***		0.247***
			(0.000)		(0.000)
jury_trial				0.104	0.005
				(0.244)	(0.949)
pen_ord_5				-0.121	-0.118
				(0.182)	(0.182)
N	170	170	170	170	170
Pseudo R-squared	0.103	0.119	0.116	0.041	0.252

*** p<0.01, ** p<0.05, * p<0.1

Table 3.12. Probit: Marginal effects, colonial history by Klerman et al. (2011)

VARIABLES	(1) pb_legal	(2) pb_legal	(3) pb_legal	(4) pb_legal	(5) pb_legal
hom_rate_5	0.009*	0.005	0.008*	0.009*	0.002
	(0.054)	(0.268)	(0.057)	(0.066)	(0.546)
gdp_5	-0.000	-0.000	-0.000	0.000	-0.000
	(0.908)	(0.266)	(0.224)	(0.795)	(0.267)
Colony of France	-0.429***				-0.353***
	(0.000)				(0.001)
Colony of French civil law	0.026				0.032
	(0.771)				(0.710)
Colony of other countries	-0.031				-0.035
	(0.875)				(0.848)
Never colonized	-0.095				-0.129
	(0.474)				(0.289)
muslim_maj		-0.393***			-0.288***
		(0.000)			(0.000)
democracy_5			0.331***		0.202***
			(0.000)		(0.002)
jury_trial				0.104	0.045
				(0.244)	(0.583)
pen_ord_5				-0.121	-0.092
				(0.182)	(0.257)
N	170	170	170	170	170
Pseudo R-squared	0.102	0.119	0.116	0.041	0.246

*** p<0.01, ** p<0.05, * p<0.1

Table 3.13. Probit: Marginal effects, alternative legal origins

VARIABLES	(1) pb_legal	(2) pb_legal	(3) pb_legal	(4) pb_legal	(5) pb_legal
hom_rate_5	0.004	0.005	0.008*	0.009*	0.001
	(0.425)	(0.268)	(0.057)	(0.066)	(0.869)
gdp_5	0.000	-0.000	-0.000	0.000	-0.000
	(0.545)	(0.266)	(0.224)	(0.795)	(0.659)
French	-0.368***				-0.300***
	(0.000)				(0.001)
German	0.094				-0.017
	(0.481)				(0.917)
Scandinavian	-0.498***				-0.517***
	(0.008)				(0.001)
Socialist	0.020				0.042
	(0.868)				(0.708)
Spanish	-				-
muslim_maj		-0.393***			-0.245***
		(0.000)			(0.002)
democracy_5			0.331***		0.217***
			(0.000)		(0.002)
jury_trial				0.104	-0.006
				(0.244)	(0.947)

pen_ord_5				-0.121	-0.033
				(0.182)	(0.728)
N	153	170	170	170	153
Pseudo R-squared	0.124	0.119	0.116	0.041	0.226

Note: The Spanish legal origin is empty because all 18 jurisdictions belonging to it in our sample have a formalized plea-bargaining procedure. Hence, its influence on the probability of formalizing plea bargaining cannot be estimated by a probit model, which requires some variance in the outcome variable's values. *** p<0.01, ** p<0.05, * p<0.1

Table 3.14. Probit: Marginal effects, common law

	(1)	(2)	(3)	(4)	(5)
VARIABLES	pb_legal	pb_legal	pb_legal	pb_legal	pb_legal
hom_rate_5	0.011**	0.005	0.008*	0.009*	0.004
	(0.020)	(0.268)	(0.057)	(0.066)	(0.324)
gdp_5	0.000	-0.000	-0.000	0.000	-0.000
	(0.993)	(0.266)	(0.224)	(0.795)	(0.136)
common_law	0.152*				0.130*
	(0.052)				(0.080)
muslim_maj		-0.393***			-0.299***
		(0.000)			(0.000)
democracy_5			0.331***		0.257***
			(0.000)		(0.000)
jury_trial				0.104	0.013
				(0.244)	(0.874)
pen_ord_5				-0.121	-0.053
				(0.182)	(0.543)
N	170	170	170	170	170
Pseudo R-squared	0.040	0.119	0.116	0.041	0.196

*** p<0.01, ** p<0.05, * p<0.1

Table 3.15. Probit: Marginal effects, adversarial tradition

	(1)	(2)	(3)	(4)	(5)
VARIABLES	pb_legal	pb_legal	pb_legal	pb_legal	pb_legal
hom_rate_5	0.011**	0.005	0.008*	0.009*	0.004
	(0.021)	(0.268)	(0.057)	(0.066)	(0.304)
gdp_5	0.000	-0.000	-0.000	0.000	-0.000
	(0.821)	(0.266)	(0.224)	(0.795)	(0.158)
adversarial	0.253***				0.162**
	(0.001)				(0.036)
muslim_maj		-0.393***			-0.282***
		(0.000)			(0.000)
democracy_5			0.331***		0.249***
			(0.000)		(0.000)
jury_trial				0.104	0.008
				(0.244)	(0.923)

pen_ord_5				-0.121	-0.035
				(0.182)	(0.696)
N	170	170	170	170	170
Pseudo R-squared	0.065	0.119	0.116	0.041	0.201

*** p<0.01, ** p<0.05, * p<0.1

E.1.3. Probability of formalizing plea bargaining, logit

Table 3.16. Logit: Marginal effects, LaPorta et al. (2008)

VARIABLES	(1) pb_legal	(2) pb_legal	(3) pb_legal	(4) pb_legal	(5) pb_legal
hom_rate_5	0.011**	0.005	0.009*	0.009*	0.005
	(0.017)	(0.287)	(0.062)	(0.074)	(0.247)
gdp_5	0.000	-0.000	-0.000	0.000	-0.000
	(0.861)	(0.266)	(0.225)	(0.793)	(0.477)
French	-0.212***				-0.161**
	(0.009)				(0.038)
German	0.161				0.101
	(0.119)				(0.398)
Scandinavian	-0.432**				-0.451**
	(0.047)				(0.015)
Socialist	-				-
muslim_maj		-0.384***			-0.249***
		(0.000)			(0.001)
democracy_5			0.326***		0.240***
			(0.000)		(0.000)
jury_trial				0.107	0.002
				(0.235)	(0.983)
pen_ord_5				-0.119	-0.109
				(0.184)	(0.212)
N	169	170	170	170	169
Pseudo R-squared	0.091	0.119	0.116	0.033	0.233

*** p<0.01, ** p<0.05, * p<0.1

Table 3.17. Logit: Marginal effects, legal origins by Klerman et al. (2011)

VARIABLES	(1) pb_legal	(2) pb_legal	(3) pb_legal	(4) pb_legal	(5) pb_legal
hom_rate_5	0.012**	0.005	0.009*	0.009*	0.006
	(0.010)	(0.287)	(0.062)	(0.074)	(0.117)
gdp_5	0.000	-0.000	-0.000	0.000	-0.000
	(0.781)	(0.266)	(0.225)	(0.793)	(0.529)
French	-0.213**				-0.181**
	(0.013)				(0.024)

German	0.152				0.069
	(0.153)				(0.564)
Scandinavian	-0.443**				-0.476***
	(0.041)				(0.010)
Mixed	-0.198				-0.244*
	(0.204)				(0.069)
muslim_maj		-0.384***			-0.259***
		(0.000)			(0.000)
democracy_5			0.326***		0.246***
			(0.000)		(0.000)
jury_trial				0.107	0.007
				(0.235)	(0.928)
pen_ord_5				-0.119	-0.107
				(0.184)	(0.219)
N	170	170	170	170	170
Pseudo R-squared	0.090	0.119	0.116	0.041	0.239

*** p<0.01, ** p<0.05, * p<0.1

Table 3.18. Logit: Marginal effects, colonial history by Klerman et al. (2011)

	(1)	(2)	(3)	(4)	(5)
VARIABLES	pb_legal	pb_legal	pb_legal	pb_legal	pb_legal
hom_rate_5	0.009*	0.005	0.009*	0.009*	0.003
	(0.065)	(0.287)	(0.062)	(0.074)	(0.494)
gdp_5	-0.000	-0.000	-0.000	0.000	-0.000
	(0.883)	(0.266)	(0.225)	(0.793)	(0.286)
Colony of France	-0.431***				-0.355***
	(0.000)				(0.001)
Colony of French civil law	0.027				0.031
	(0.763)				(0.717)
Colony of other countries	-0.031				-0.043
	(0.875)				(0.814)
Never colonized	-0.093				-0.144
	(0.485)				(0.238)
muslim_maj		-0.384***			-0.279***
		(0.000)			(0.000)
democracy_5			0.326***		0.198***
			(0.000)		(0.002)
jury_trial				0.107	0.050
				(0.235)	(0.544)
pen_ord_5				-0.119	-0.087
				(0.184)	(0.274)
N	170	170	170	170	170
Pseudo R-squared	0.065	0.119	0.116	0.041	0.247

*** p<0.01, ** p<0.05, * p<0.1

Table 3.19. Logit: Marginal effects, alternative legal origins

VARIABLES	(1) pb_legal	(2) pb_legal	(3) pb_legal	(4) pb_legal	(5) pb_legal
hom_rate_5	0.004	0.005	0.009*	0.009*	0.001
	(0.446)	(0.287)	(0.062)	(0.074)	(0.857)
gdp_5	0.000	-0.000	-0.000	0.000	-0.000
	(0.539)	(0.266)	(0.225)	(0.793)	(0.654)
French	-0.369***				-0.305***
	(0.000)				(0.001)
German	0.095				-0.029
	(0.477)				(0.863)
Scandinavian	-0.498***				-0.518***
	(0.007)				(0.001)
Socialist	0.019				0.043
	(0.875)				(0.700)
Spanish	-				-
muslim_maj		-0.384***			-0.246***
		(0.000)			(0.001)
democracy_5			0.326***		0.213***
			(0.000)		(0.002)
jury_trial				0.107	-0.004
				(0.235)	(0.965)
pen_ord_5				-0.119	-0.017
				(0.184)	(0.857)
N	153	170	170	170	153
Pseudo R-squared	0.124	0.119	0.116	0.041	0.226

Note: The Spanish legal origin is empty because all 18 jurisdictions belonging to it in our sample have a formalized plea-bargaining procedure. Hence, its influence on the probability of formalizing plea bargaining cannot be estimated by a logit model, which requires some variance in the outcome variable's values. *** p<0.01, ** p<0.05, * p<0.1

Table 3.20. Logit: Marginal effects, common law

VARIABLES	(1) pb_legal	(2) pb_legal	(3) pb_legal	(4) pb_legal	(5) pb_legal
hom_rate_5	0.011**	0.005	0.009*	0.009*	0.004
	(0.027)	(0.287)	(0.062)	(0.074)	(0.319)
gdp_5	0.000	-0.000	-0.000	0.000	-0.000
	(0.985)	(0.266)	(0.225)	(0.793)	(0.135)
common_law	0.151*				0.139*
	(0.053)				(0.063)
muslim_maj		-0.384***			-0.296***
		(0.000)			(0.000)
democracy_5			0.326***		0.256***
			(0.000)		(0.000)
jury_trial				0.107	0.011
				(0.235)	(0.897)
pen_ord_5				-0.119	-0.045

				(0.184)	(0.596)
N	170	170	170	170	170
Pseudo R-squared	0.065	0.119	0.116	0.041	0.196

*** p<0.01, ** p<0.05, * p<0.1

Table 3.21. Logit: Marginal effects, adversarial tradition

VARIABLES	(1) pb_legal	(2) pb_legal	(3) pb_legal	(4) pb_legal	(5) pb_legal
hom_rate_5	0.011**	0.005	0.009*	0.009*	0.004
	(0.026)	(0.287)	(0.062)	(0.074)	(0.303)
gdp_5	0.000	-0.000	-0.000	0.000	-0.000
	(0.827)	(0.266)	(0.225)	(0.793)	(0.156)
adversarial	0.255***				0.170**
	(0.001)				(0.029)
muslim_maj		-0.384***			-0.279***
		(0.000)			(0.000)
democracy_5			0.326***		0.248***
			(0.000)		(0.000)
jury_trial				0.107	0.006
				(0.235)	(0.945)
pen_ord_5				-0.119	-0.028
				(0.184)	(0.750)
N	170	170	170	170	170
Pseudo R-squared	0.065	0.119	0.116	0.041	0.202

*** p<0.01, ** p<0.05, * p<0.1

E.2. Plea bargaining rates, extensions and robustness tests

Table 3.22. OLS: Overlapping measures for penal orders and jury trials

VARIABLES	(1) pb_rate	(2) pb_rate	(3) pb_rate
hom_rate	2.245*	0.009	0.132
	(0.070)	(0.994)	(0.910)
hom_rate_sq	-0.044	-0.006	-0.005
	(0.112)	(0.828)	(0.823)
gdp_2018	1.397**	1.911***	1.182***
	(0.011)	(0.001)	(0.001)
gdp_2018_sq	-0.011**	-0.016***	-0.014***
	(0.026)	(0.002)	(0.002)
French		-40.565***	-9.013
		(0.003)	(0.554)
German		-52.880***	-21.144
		(0.000)	(0.154)
Scandinavian		-83.563***	-40.842
		(0.002)	(0.109)

Socialist		8.715	28.485**
		(0.464)	(0.022)
Spanish		24.720**	44.530***
		(0.048)	(0.001)
muslim		0.383	0.417
		(0.426)	(0.335)
democracy		1.301	6.486
		(0.914)	(0.553)
year_pb		-0.231	-0.189
		(0.245)	(0.318)
Regulation level: Min	6.186		14.569*
	(0.505)		(0.086)
Regulation level: Max	-14.258		-11.885
	(0.233)		(0.257)
pen_ord_overlap	-8.665**		-1.010
	(0.022)		(0.793)
jury_trial_overlap	5.780		7.917*
	(0.224)		(0.052)
N	52	52	52
R-squared	0.540	0.662	0.768

*** p<0.01, ** p<0.05, * p<0.1

Table 3.23. OLS: Legal and external factors - Excluding South Africa

VARIABLES	(1) pb_rate	(2) pb_rate	(3) pb_rate
hom_rate	2.968**	0.557	1.048
	(0.016)	(0.667)	(0.376)
hom_rate_sq	-0.056**	-0.013	-0.022
	(0.035)	(0.630)	(0.347)
gdp_2018	1.458***	1.884***	1.871***
	(0.003)	(0.001)	(0.000)
gdp_2018_sq	-0.012***	-0.016***	-0.014***
	(0.009)	(0.002)	(0.002)
French		-41.186***	-16.686
		(0.002)	(0.315)
German		-54.076***	-27.981*
		(0.000)	(0.100)
Scandinavian		-84.179***	-45.174*
		(0.001)	(0.094)
Socialist		3.674	20.825
		(0.760)	(0.107)
Spanish		16.217	31.905**
		(0.219)	(0.021)
muslim		0.252	0.265
		(0.599)	(0.542)
democracy		-4.461	1.153
		(0.718)	(0.919)

year_pb		-0.182	-0.117
		(0.354)	(0.541)
Regulation level: Min	10.352		13.429
	(0.233)		(0.113)
Regulation level: Max	-20.143*		-19.138*
	(0.071)		(0.062)
pen_ord	-14.501		4.065
	(0.157)		(0.734)
jury_trial	19.262**		14.366*
	(0.028)		(0.071)
N	51	51	51
R-squared	0.607	0.674	0.770

*** p<0.01, ** p<0.05, * p<0.1

Table 3.24. OLS: Legal and external factors – Common law

VARIABLES	(1) pb_rate	(2) pb_rate	(3) pb_rate
hom_rate	2.304*	3.531**	2.380**
	(0.052)	(0.024)	(0.048)
hom_rate_sq	-0.047*	-0.069**	-0.048*
	(0.074)	(0.045)	(0.063)
gdp_2018	1.397***	1.100	1.651***
	(0.005)	(0.111)	(0.003)
gdp_2018_sq	-0.011**	-0.010	-0.012**
	(0.013)	(0.105)	(0.011)
common_law		22.178*	-23.912**
		(0.058)	(0.043)
muslim		-0.054	0.208
		(0.927)	(0.640)
democracy		9.115	5.792
		(0.571)	(0.642)
year_pb		0.255	0.269
		(0.301)	(0.155)
Regulation level: Min	6.630		16.229*
	(0.441)		(0.095)
Regulation level: Max	-17.938		-21.942*
	(0.113)		(0.053)
pen_ord	-22.046**		-27.875***
	(0.024)		(0.006)
jury_trial	19.258**		17.470*
	(0.032)		(0.051)
N	52	52	52
R-squared	0.590	0.288	0.651

*** p<0.01, ** p<0.05, * p<0.1

Table 3.25. OLS: Legal and external factors – Adversarial tradition

VARIABLES	(1) pb_rate	(2) pb_rate	(3) pb_rate
hom_rate	2.304*	3.531**	2.380**
	(0.052)	(0.024)	(0.048)
hom_rate_sq	-0.047*	-0.069**	-0.048*
	(0.074)	(0.045)	(0.063)
gdp_2018	1.397***	1.100	1.651***
	(0.005)	(0.111)	(0.003)
gdp_2018_sq	-0.011**	-0.010	-0.012**
	(0.013)	(0.105)	(0.011)
adversarial		22.178*	-23.912**
		(0.058)	(0.043)
muslim		-0.054	0.208
		(0.927)	(0.640)
democracy		9.115	5.792
		(0.571)	(0.642)
year_pb		0.255	0.269
		(0.301)	(0.155)
Regulation level: Min	6.630		16.229*
	(0.441)		(0.095)
Regulation level: Max	-17.938		-21.942*
	(0.113)		(0.053)
pen_ord	-22.046**		-27.875***
	(0.024)		(0.006)
jury_trial	19.258**		17.470*
	(0.032)		(0.051)
N	52	52	52
R-squared	0.590	0.288	0.651

*** p<0.01, ** p<0.05, * p<0.1

Chapter 4 The adverse effect of trial duration on the use of plea bargaining and penal orders in Italy*

4.1. Introduction

This chapter and the following one will explore the role of certain factors in explaining the low and decreasing use of administratization procedures in Italy. In particular, this chapter will consider the Italian regulation of the criminal statute of limitations, while Chapter 5 the role played by lawyer's financial incentives.

The choice of Italy as a case study is primarily motivated by two reasons. First, as discussed in Chapter 2, Italy was the first jurisdiction of inquisitorial tradition to adopt plea bargaining as part of an adversarial turn in criminal procedure, thus setting a trend and modelling a style of regulation that influenced other jurisdictions (Langer, 2007; Semukhina and Reynolds, 2009).[155] Second, Italy is characterized by a constant and significant decline in the use of both plea bargaining and penal orders, contrary to the stable trend registered in most other jurisdictions. Understanding the reasons of such decline might help in preventing a similar development in jurisdictions that aim to maintain stable administratization rates.

In Italy, at least since the 1970s, criminal trials have been characterized by an excessive duration (Boari and Fiorentini, 2001; Mura and Patrono, 2011).[156] Over the last twenty years the situation has further deteriorated and in 2018 Italy ranked first among the 47 members of the Council of Europe in terms of duration of first-instance criminal trials, with a disposition time of 361 days, compared to a continental average of 144 days (CEPEJ 2022).

In order to reduce the average duration of criminal proceedings, since 1988 Italian lawmakers have provided for two trial-avoiding conviction mechanisms. The first one is a plea-bargaining procedure informally called *patteggiamento*, according to which defendants can waive their right to trial in exchange for discounted sentences. The second one is a penal order procedure,

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[155] As reported in Chapter 2, Italy was also the first jurisdiction of French legal tradition to introduce penal orders.

[156] This led to several decisions by the European Court of Human Rights against Italy for violations of the right to a reasonable duration of trials, provided for in art.6 of the European Convention on Human Rights. See lastly Petrella v. Italy, no. 24340/07, ECHR 2021.

known as *decreto penale di condanna*, according to which prosecutors can impose fine sentences already during the investigation phase; those sentences result in final convictions unless defendants oppose them and ask for trial within 15 days.

The Law and Economics literature (Landes, 1971; Adelstein, 1978) predicts that a longer expected trial duration, by increasing the costs of trial, should incentivize both parties towards a greater use of plea bargaining. Similar reasoning can be extended to other trial-avoiding mechanisms such as penal orders. However, over the last twenty years, the use of both plea bargaining and penal orders has steadily decreased in Italy. I argue that this puzzling situation can be explained by the regulation of the Italian statute of limitations. According to such regulation, defendants must be acquitted if, after indictment, they are not convicted within a limited time since the alleged commission of the crime, regardless of any available evidence and of the resources already invested by the State in prosecuting the case. The statute of limitations thus lowers defendants' incentives towards a quick disposition of their case, since longer trials increase their chances of acquittal.

The chapter is organized as follows. Section 4.2. contains a brief overview of the related literature. Section 4.3. discusses the regulation and functioning of Italian criminal proceedings. Section 4.4. describes the empirical strategy, together with the instruments and additional relevant variables. Section 4.5. presents the data and their sources. In Section 4.6. I report and discuss the results of the analysis, while Section 4.7. concludes.

4.2. Related literature

According to the first economic model of plea bargaining (Landes, 1971) a plea agreement is more likely the more resources would a trial cost compared to plea bargaining.[157] In line with theory, the same paper finds a positive correlation between plea bargaining and longer trial delays in U.S. district courts in the years 1960, 1967, and 1968.[158] The second economic model of plea bargaining (Adelstein, 1978) explicitly takes into account the effects of time on the decisions of the parties. A greater delay in the disposition of cases imposes greater costs on both

[157] Among other implications of the model, plea bargaining should take place more often when the expected trial sentence is smaller, when defendants are more risk-averse, and when prosecutors' and defendants' estimates about the likelihood of conviction at trial differ widely.

[158] According to Landes, such effect should be mainly driven by defendants not released on bail, since a longer trial delay imposes greater costs on them. However, trial delay arguably increases expected trial costs for every type of defendant.

prosecutors and defendants, which then try to minimize the time required for reaching an agreement.

The empirical research on the drivers of use of plea bargaining in individual jurisdictions is nearly exclusively focused on the U.S., with two exceptions. First, Boari and Fiorentini (2001) finds the use of plea bargaining in Italy to be positively correlated with the number of incoming cases, the proportion of reported cases with known authors, and the population size of judicial districts, while negatively correlated with income levels, the number of lawyers, and a higher seniority of the chief prosecutor.[159] Second, Stephen et al. (2008) finds that a change in the remuneration of public defenders in Scotland, from payment for work done to a fixed fee, caused an increase in plea-bargaining rates. In the U.S. a greater likelihood of accepting plea agreements is exhibited by defendants in pretrial detention (Sacks and Akerman, 2012; Heaton et al., 2017; Leslie and Pope, 2017; Donnelly and MacDonald, 2018; Dobbie et al., 2018), by those on which a death penalty can be imposed (Kuzmienko, 2006; Thaxton, 2013) and by those charged with lower-severity offenses (Meyer and Gray, 1997). Lower plea-bargaining rates are instead observed in the months approaching prosecutorial elections (Bandyopadhyay and McCannon, 2014), since prosecutors can better show their ability to the electorate during court trials.[160] In cross-country settings, the empirical study of the determinants of use of plea bargaining is close to nil, mainly because of data unavailability and obstacles to causal inference (Langer, 2021). As shown in Chapter 3, the presence of jury trials and the Spanish and Socialist legal origins correlate with higher plea-bargaining rates, compared to common law jurisdictions. Conversely, lower plea-bargaining rates are associated with both very rich and very poor jurisdictions.

A further strand of literature explores the effects criminal trials duration on various outcomes. Using Italian data for the period 1999-2002, Dalla Pellegrina (2008) finds that longer first-instance trials cause an increase in crimes against property. This effect could be attributed both to a discounting process, so that a delayed punishment is perceived as less costly, or to the diluting effect on deterrence caused by the Italian statute of limitations. Using data from the Czech Republic in the period 1999-2008, Dušek (2015) finds that the introduction of a fast-track procedure led to a substantial increase in recorded drive-related offences, because of the reallocation of police resources towards crimes with low-enforcement costs.

[159] The results are based on an analysis of 146 first-instance judicial districts in the period 1989-1992.
[160] For an extensive review of the empirical literature about plea bargaining in the USA see Subramian et al. (2020).

4.3. Legal and factual background

4.3.1. The plea-bargaining procedure

In 1989 a new code of criminal procedure entered into force in Italy, introducing a plea-bargaining procedure, informally called *patteggiamento*.[161] According to such procedure, the defendant can agree with the prosecutor to waive his right to trial and accept the imposition of a criminal sentence reduced by up to one third.[162] Plea bargaining is possible for crimes punished with up to 5-year imprisonment, taking into account the sentence discount and the applicable mitigating circumstances.[163] In the case of prison sentences above 2 years, plea bargaining is not applicable to terrorism-related crimes, organized crime, some sexual crimes, and if the defendant is a recidivist.[164]

A plea agreement can only be reached before the opening of first-instance trials. The negotiations involve only the defendant, together with their defense lawyer, and the prosecutor. After the agreement has been signed, it is reviewed by a judge, who can only accept or reject it, but not modify its content. The judicial review is quite thorough. Initially the judge checks whether plea bargaining can be applied in the case under review and if some causes exist that would have prevented a conviction at trial. Then they check whether the charges correspond to the alleged facts, whether all the mitigating and aggravating circumstances have been considered, and whether the proposed punishment is in line with the constitutional aim of rehabilitation. A conviction imposed through plea bargaining cannot be appealed.

4.3.2. The penal order

If a custodial sentence is not needed and the evidence is strong enough, the prosecutor, during the investigation phase, can ask the judge to issue a penal order and impose a fine on the defendant. Before issuing the penal order, the judge checks whether a fine is the appropriate punishment, and whether any reason would have prevented a conviction at trial.

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[161] As discussed in Chapter 2, Italy was then the first civil law country to introduce plea bargaining as part of an adversarial reform of the system of criminal procedure.

[162] Besides the sentence discount, in all cases plea bargaining entails the following additional benefits for defendants: the proceedings' expenses are not due; ancillary measures cannot be applied (e.g. suspension of the driving license); the conviction is not mentioned in the criminal records when required by privates; the conviction cannot be used as evidence in civil and administrative proceedings; all other effects of the conviction cease if the defendant does not commit a similar crime within a period of 2 to 5 years.

[163] For example, a crime that would have been punished with 7-year imprisonment at trial could be object of plea bargaining, because after the 1/3 discount the sentence to be imposed is just 4,67 years.

[164] Regardless of the sentence limit, plea bargaining cannot be used by underage defendants.

The penal order is then notified to the defendant, who can oppose it within 15 days and ask for trial.[165] Otherwise, the fine becomes final, and it equates to a criminal conviction. In order to disincentivize the opposition to penal orders, the law stipulates that the imposed fine can be reduced up to half of the minimum mandated by law for the crime.[166]

4.3.3. The statute of limitations

According to the Italian regulation of the statute of limitations, a conviction can only be imposed within a limited time since the alleged commission of the crime.[167] This period is equal to the maximum prison penalty set by law for that crime, [168] and in any case it cannot be less than 6 years for felonies and 3 years for misdemeanors.[169] If a conviction is not imposed within such a period, the defendant must be acquitted, since the crime is considered extinct, regardless of the stage of the first-instance procedure in which the threshold is met.[170] For example, if a misdemeanor is punishable by law with maximum 4-year imprisonment, the statute of limitations threshold is also set at 4 years. The only exceptions are crimes punished with life imprisonment, to which the statute of limitations does not apply.

4.3.4. The organization of criminal proceedings

When prosecutors are notified about the commission of a crime, they must commence investigations, with the support of police forces. During the investigation stage any act that can impact the constitutional rights of people under investigation, e.g. searches and seizures, must be authorized by a specific judge, called G.I.P., which stands for "Judge assigned to the preliminary investigation". The same judges also accept or reject the prosecutors' requests

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[165] Alternatively, when opposing the penal order, the defendant can propose a plea bargaining or ask for a simplified trial. However, if the prosecutor does not accept such proposal or request, the opposition stands, and the case will be adjudicated at trial. It is worth noting that, before being notified the penal order, the defendant can be totally unaware of the criminal investigation carried against him (Nicolucci, 2008).

[166] By not opposing the penal order, the defendant enjoys the following additional benefits: the proceedings' expenses are not due; ancillary measures cannot be applied (e.g. suspension of the driving license); the conviction cannot be used as evidence against the defendant in civil and administrative proceedings; all other effects of the conviction cease if the defendant does not commit a similar crime within a period of 2 to 5 years.

[167] Some procedural acts interrupt the computation of the statute of limitations threshold, such as the imposition of a penal order, or the judicial decrees that set the date for the opening of trial. When those acts take place the counter of the statute of limitations threshold is set to zero, but it starts running again since that same day.

[168] If the crime is punished only with a fine, the maximum amount prescribed by law is converted into days, according to a rate periodically established by law. For crimes punished neither with a prison sentence nor with a fine, the statute of limitations threshold is set at three years.

[169] Felonies, called *delitti*, can be punished with prison sentences up to 24 years while misdemeanors, called *contravvenzioni*, with prison sentences up to 3 years.

[170] After a reform entered into force in January 2020 (legge n. 3/2019), the time spent during the appeal and cassation trials is not relevant anymore for computing the statute of limitations threshold. Since the present analysis is focused on the duration of first-instance trials, I do not specifically consider the possible effects of such reform on the use of alternative procedures.

directed at imposing penal orders and they review any plea agreement concluded during the investigation phase. At the end of the investigations, prosecutors can ask the G.I.P. to either drop the case, for example because not enough evidence have been collected or no person can be charged, or to set a date for trial. If the charged crime is not a felony, or if it is statutorily punishable with less than 4-year imprisonment, the G.I.P. directly set a date for trial. At any time before the opening of trial, prosecutors and defendants can still reach a plea agreement, which will be then reviewed by the trial court.

If the charged crime is a felony, or if it is statutorily punishable with more than 4-year imprisonment, a preliminary hearing takes place before the actual trial. During this hearing a different judge, called G.U.P., which stands for "Judge assigned to the preliminary hearing", decides whether the prosecutor has collected enough evidence, and whether, based on such evidence, it is possible to anticipate that the defendant will be convicted at trial. If the evidence collected cannot support the opening of trial, the G.U.P. can indicate to the prosecutor the need for supplementary investigations or reject altogether the request to set a date for trial. The preliminary hearing takes place with the necessary participation of both the prosecutor and the defense lawyer. During the preliminary hearing, the defendant can also request to be judged by the G.U.P. according to a simplified-trial procedure called *procedimento abbreviato*. The G.U.P. also reviews any plea bargaining concluded in the period going from the end of the investigations to the end of the preliminary hearing itself.

To sum up, plea bargaining can take place: a) during the investigation stage, and be reviewed by the G.I.P.; b) between the end of the investigation stage and the opening of trial, for crimes that do not require the preliminary hearing, and be reviewed by the trial court; c) between the end of the investigation stage and the end of the preliminary hearing, and be reviewed by the G.U.P.

Instead, penal orders can only be imposed during the investigation stage by the G.I.P., upon request of the prosecutor.

Following the preliminary hearing, the first-instance trial takes place before either a monocratic court or a judicial panel. The monocratic court has general jurisdiction over all crimes unless they are specifically attributed to the jurisdiction of the judicial panel. The monocratic court also functions as appellate court for criminal cases decided in first instance by justices of the

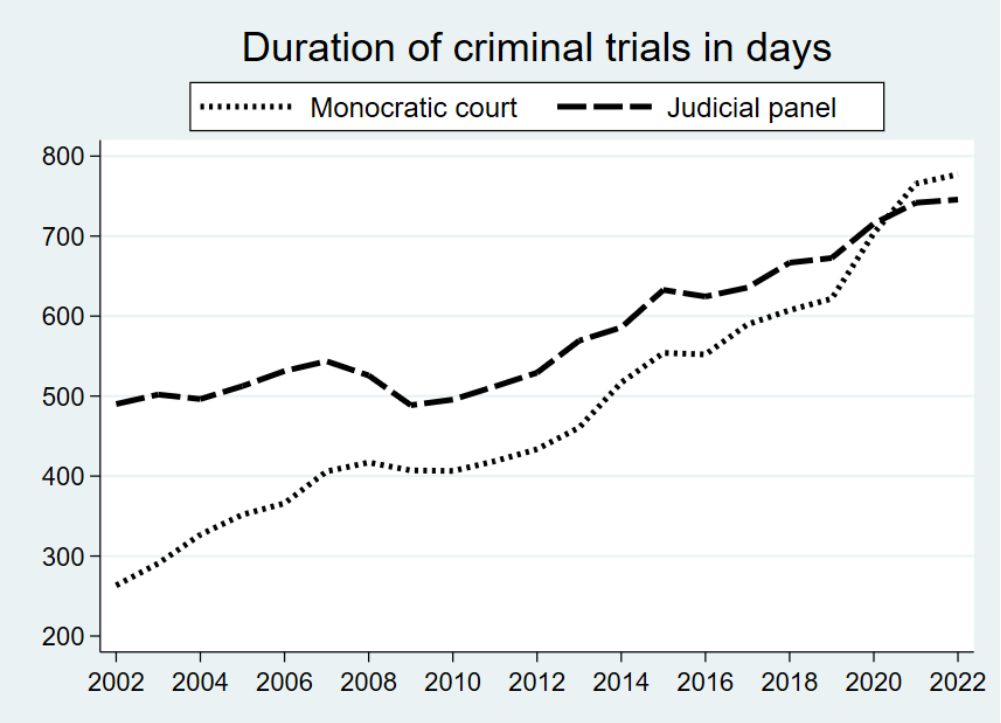
peace.[171] The jurisdiction of the judicial-panel court includes crimes punishable above 10-years imprisonment and a series of more serious crimes enumerated by law, such as terrorism, organized crime, rape, bankruptcy-related fraud. Homicide cases, together with a few other crimes, are assigned to the jurisdiction of a different judicial-panel court, called assize court.[172]

All first-instance courts described above are organized in Tribunals, whose jurisdiction extends over a territory called *circondario*. Courts of Appeal instead have jurisdiction over a territory called *distretto*, which includes several *circondari*. The Italian territory is currently organized into 140 first-instance districts (*circondari*) and 26 second-instance districts (*distretti*).

4.3.5. Trial duration and the use of trial-avoiding procedures

The average duration of first instance trials has steadily increased over the last twenty years, as shown in Figure 4.1.

Figure 4.1. Average duration of first-instance criminal trials, 2002-2022



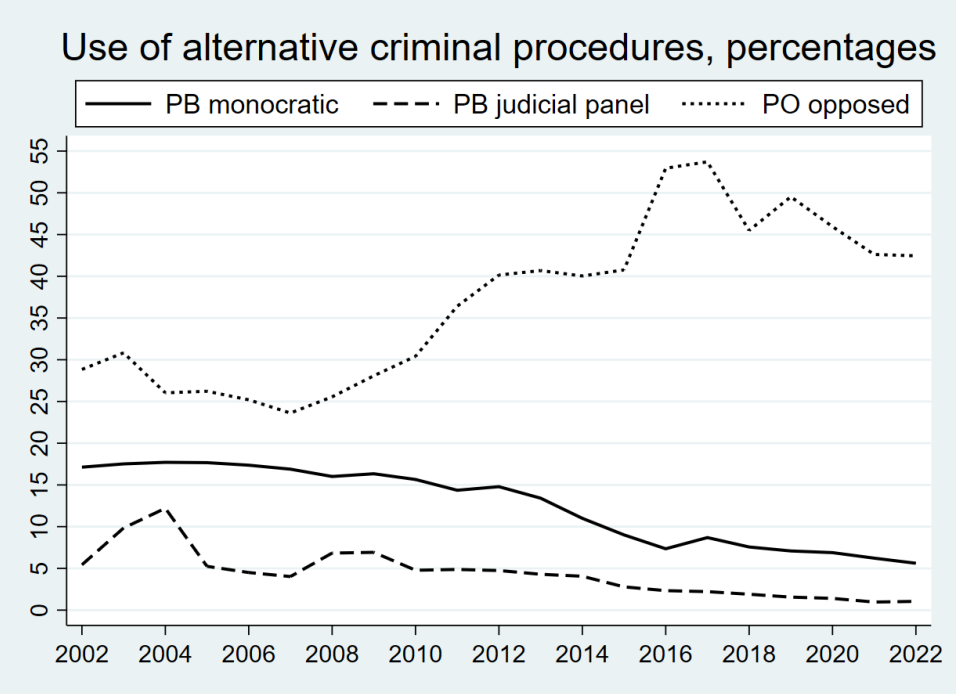
The average duration of trials before monocratic courts rose from 263 days in 2002 up to 777 days in 2022. The average duration of judicial-panel trials increased from 490 days in 2002 up to 745 days in 2022. Over the same period, in contrast with the predictions of the Law and

[171] Justices of the peace have competence over a series of petty crimes enumerated by law. They cannot impose prison sentences or fines above 2.582 euros. Plea bargaining and penal orders do not apply to cases decided by justices of the peace.

[172] This is the only court that requires the presence of lay judges. The use of plea bargaining is not *de jure* excluded, but it has been *de facto* applied in just 21 cases between 2002 and 2022.

Economics literature, the number of plea bargaining (PB) has decreased, while the oppositions to penal orders (PO) have increased, as depicted in Figure 4.2.

Figure 4.2. Use of plea bargaining and penal orders, 2002-2022



Plea bargaining accounted for 17,13% of all cases decided by monocratic courts in 2002, but only for 5,61% in 2022, corresponding to a 67% decrease. For judicial panels, the proportion decreased by 80%, going from 5,43% in 2002 to 1,05% in 2022. Over the same period, the percentage of opposed penal orders rose by 47%, from 28,84% in 2002 to 42,25% in 2022.

4.4. Empirical strategy

According to the Law and Economics literature, higher expected costs of trial should induce a greater use of plea bargaining. A considerable component of the total costs of trial is the time necessary for adjudicating the case, since it constitutes a relevant opportunity cost for both defendants and prosecutors (Landes, 1971; Adelstein, 1978). However, I argue that in Italy longer trials might be preferred by defendants over a quick disposal of their case. The reason is the peculiar regulation of the Italian statute of limitations: defendants must be acquitted, regardless of any existing evidence against them, if they are not convicted within a certain time since the alleged commission of the crime. As shown above, Italy has simultaneously experienced an increase in the average duration of criminal trials and a decrease in the use of trial-avoiding procedures over the last twenty years. However, this simple observation is not enough to conclude that longer trials cause a decrease in the use of plea bargaining and penal

orders. Indeed, it is easy to argue that the causal mechanism primarily operates in the opposite direction. Namely, a lower use of plea bargaining and penal orders results in more ordinary trials which, under resource constraints, will take longer to be adjudicated. Trial duration is hence endogenous to the use of trial-avoiding procedures.

In order to overcome the endogeneity problem, I rely on instrumental variable analysis. This approach requires finding a variable, called instrument, which is directly related to the explanatory variable (relevance condition), but at the same time not related to the outcome variable (exclusion restriction), unless because of its influence on the explanatory variable itself (Woolridge, 2018). In the context of the present analysis, I need to find a variable that is directly related to my explanatory variable, trial duration, but not with my outcome variables, i.e. the use of plea bargaining and penal orders.

4.4.1. The instruments

As a first instrumental variable I employ the number of criminal law judges per 1,000 inhabitants in each first-instance judicial district. This variable should correlate with trial duration since a higher density of judges should ensure a quicker disposition of the caseload. At the same time, the exclusion restriction should hold, because judges cannot directly influence the use of plea bargaining and penal orders. Indeed, they can only impose penal orders when required to do so by prosecutors, and the decision to oppose the penal order is solely in the hands of the defendant. Regarding plea bargaining, judges never participate in the negotiations process. Furthermore, the judge that reviews the agreement is not the same judge with jurisdiction over the procedural stage in which the agreement itself is concluded, except for the G.I.P. Furthermore, it seems plausible that the decisions of prosecutors and defendants regarding the use of trial-avoiding procedures do not directly depend on the observed density of judges in the judicial district, unless because of the impact of such factor on the expected duration of criminal trials.

I argued that the density of criminal law judges has no direct influence over the use of plea bargaining and penal orders. Unfortunately, the exclusion restriction can never be tested (Woolridge, 2018), and for this reason “good instruments should feel weird” (Cunningham, 2021, p.320). Indeed, a good instrument feels weird precisely because it does not show any direct correlation with the outcome variable. For this reason, I employ an additional instrument: the average yearly temperature in each first-instance judicial district. A major factor in determining trial duration in Italy is the extent of the delay between the various hearings

necessary for adjudicating a case. An example is provided by Mura and Patrono (2011), which describe the case, reportedly non-extraordinary, of a first-instance criminal trial that lasted 9 years. Together with the high number of hearings requested by the court, a major source of delay consisted in the postponement of many hearings because of exogenous reasons (e.g. lawyers' strikes, witnesses' failure to appear, changes in the composition of the court, etc.) together with the scheduling of hearings months apart from each other. The court's decision not to schedule a hearing in a certain date is influenced, among other factors, by the expected weather conditions in that date.[173] In particular, courts might avoid scheduling hearings during especially warm days. In judicial districts characterized by longer and/or warmer summer seasons this might result in fewer hearings held every year.[174] The reason is that judges might leave the cities during the warmest days, preferring localities in the mountains or by the sea, characterized by more temperate weather.[175] Additionally, hearings that take place during especially warm days might be shortened,[176] or be characterized by lower productivity,[177] thus requiring the scheduling of additional hearings to adjudicate a case and prolonging the total

[173] A popular strand of literature has tested the influence of weather conditions on cases outcomes, with inconclusive results. Heyes and Saberian (2019) found that an increase in outdoor temperature caused a decrease in immigration judges' propensity to grant asylum in the U.S. However, Spamann (2022) fails to replicate such result, when correcting for coding errors and enlarging the sample. Craigie et al. (2023) reports that high daily temperatures raise the likelihood of criminal convictions in India, while Evans and Siminski (2021) finds no effect of outside temperature on the outcome of criminal court cases in Australia. However, it is worth noting that this strand of literature is interested in exploring the relationship between weather conditions and the outcome of individual cases. Instead, the present analysis is focused on the relevance of weather conditions for the scheduling and organization of court hearings, without any claim about the outcome of the hearings themselves.

[174] This seems to be confirmed by the case described in Mura and Patrono (2011), which reports the dates of all hearings scheduled during the 9-year long criminal trial. It can be noted that hearings are fairly distributed during all months, apart from summer months. In particular, no hearings were ever scheduled between the second half of July and the first half of September, i.e. the warmest period of the year in Italy.

[175] Judges maximize the same things that everyone else does, according to judge Posner (1993).

[176] Hearings might be shortened because the opportunity costs of being in a courtroom during a warm summer day are high for both judges and other actors involved in the procedure. Additionally, they might be shortened because of the difficulties caused by warmer temperatures in the afternoon, considering that many Italian courtrooms from North to South are not well insulated. See e.g. in Perugia in 2024 lawyers asking judges to avoid scheduling hearings in July https://tuttoggi.info/troppo-caldo-in-tribunale-niente-aria-condizionata-e-mancano-pure-le-tapparelle-malore-e-proteste/843345/; in Ragusa in 2023 all hearings were suspended for a week in July https://reteiblea.it/2023/07/troppo-caldo-al-tribunale-di-ragusa/; in Rome in July 2023 court activities were severely limited by the excessive temperatures inside the court facilities https://www.agi.it/cronaca/news/2023-07-18/caldo-potrebbe-fermare-giustizia-roma-tribunale-condizionatori-rotti-22285346/; in Novara in 2019 court's employees protested against the excessive temperatures inside the building, claiming that the issue was lasting since several years https://www.novaratoday.it/cronaca/troppo-caldo-protesta-dipendenti-tribunale.html; in Udine in July 2015 hearings were held only until noon https://messaggeroveneto.gelocal.it/udine/cronaca/2015/07/22/news/c-e-troppo-caldo-in-tribunale-tutti-a-casa-alle-12-1.11817582; in Livorno in 2010 judges lamented the extreme difficulties in holding hearings because of the excessive courtroom temperatures https://www.obiettivotre.com/ultima-ora/troppo-caldo-a-in-tribunale-a-livorno-e-il-giudice-%E2%80%9Clo-mette-a-verbale%E2%80%9D/.

[177] In a meta-analysis of previous studies about office environments, Seppanen et al. (2006) finds that performance decreases with temperature above 23-24° C. Instead, Porra Salazar et al. (2021) does not find a significant relationship between temperature and work performance. However, journal articles mentioned in the previous footnote seem to confirm that warmer courtroom temperatures reduce productivity in Italian courts.

duration of trial. Consequently, I expect longer trial duration in judicial districts characterized by average higher temperatures. Since there are reasons to believe that outside temperatures can influence trial duration, the relevance condition should hold. At the same time, the exclusion restriction can be defended, because temperature can influence the work performance of a certain day, or the decision to not hold hearing in a warm summer week, but *per se* it is unlikely to influence prosecutors' and defendants' final decisions about the use of plea bargaining and penal orders.[178]

4.4.2. Other variables

The number of incoming cases is an easily observable factor that can influence the choices of both defendants and prosecutors towards the use of trial-avoiding procedures. In particular, a larger number of new cases should have a negative impact on court's efficiency, and result in average longer disposition times. This will increase the prosecutors' willingness to offer plea agreements, or to request the imposition of penal orders, in order to quicken caseload disposal and to avoid incurring into the statute of limitations at trial. Symmetrically, the same considerations will decrease the defendant's incentives towards the use of trial-avoiding mechanisms. It can be argued that the effect of more incoming cases on the prosecutor's choices will balance the opposite effect on the defendant's side, or that either of the effects can prevail. I argue that the effect on the defendant's side will prevail in practice, for two reasons. First, even if a quicker disposition of cases can enhance the prosecutor's career perspectives, the stakes are still higher for the defendants, since they risk the imposition of a criminal conviction, and possibly a prison sentence. Second, and most importantly, a greater use of trial-avoiding mechanisms is unlikely to influence the career perspectives of Italian prosecutors in either direction. A 2006 reform has stipulated that every 4 years both judges and prosecutors will be object of a "professionality judgement", which, in case of positive assessment, will determine a pay increase and the possibility of concurring for directive positions. Among the five criteria evaluated, one is of particular interest in this context: the number of disposed cases and the average disposition time. A larger use of trial-avoiding mechanisms would clearly help in obtaining a better assessment, but the reality is that professionality judgements are just a formality, and that career progressions are *de facto* linked to seniority, as before the reform.[179]

[178] Such claim is supported by that part of literature which does not find any influence of temperature on the outcome of court cases. Besides that, it is hard to imagine a defendant accepting or refusing a plea-bargaining offer simply because the day is particularly warm.

[179] A judge declared that between 2008 and 2019 nearly all "professionality judgments" have had a positive outcome, while the negative ones are a negligible percentage (Perelli, 2019). Furthermore, according to a high-rank judge, most assessments are not only positive, but they declare excellence, thus hindering the possibility of

Hence, I expect the defendants' interests to prevail, and to observe a lower use of plea bargaining and penal orders with more incoming cases.[180]

A similar effect should be observed in more populous judicial districts. A minimum number of judges and administrative staff is assigned to each Tribunal, regardless of the population of the judicial district. However, the number of judges, administrative staff, and even police officers does not grow proportionally with population. At the same time, more populated districts should be characterized by a more active social and economic life, which in turn creates more chances for the commission of crimes. Dalla Pellegrina (2008) argues that larger courts should be more efficient because of the effects of economies of scale, while Boari and Fiorentini (2001) reports that in larger cities in Italy the average disposition time for criminal trials was six times longer than in smaller cities in the early 2000s. In his pioneer analysis Landes (1971) observed a greater propensity of defendants towards plea bargaining in more populated counties, attributing such result to average larger court delays in those jurisdictions.[181] Even without considering the actual efficiency of courts located in more populous districts, I argue that just observing a more crowded and chaotic court can induce in defendants an impression of inefficiency and an expectation of higher probabilities of incurring into the statute of limitations.[182] Hence, I expect the population size of the judicial district to be negatively correlated with the use of trial-avoiding procedures.

Income should be a relevant factor only for defendants, since the material resources assigned to each court, and to each prosecutor, do not directly depend on the GDP of the corresponding territory. Since defense lawyers are paid according to the number of procedural acts they perform (Buonanno and Galizzi, 2014), opting for trial is the more expensive choice for

signaling, among the diligent prosecutors, those who really deserve a better career progression (Mannucci Pacini, 2019). The lack of incentives towards a greater use of plea bargaining by Italian prosecutors is also discussed by Boari and Fiorentini (2001).

[180] The number of incoming cases is used instead of crime rates for several reasons. First, no comprehensive data about crime rates are available at the judicial district level. The only available data in this regard is the number of crimes reported by police forces from the year 2010 onwards. However, by including only crimes reported by police forces, actual crime rates are underestimated, and data are skewed against crimes reported by private citizens. Second, data about reported crimes are often considered as poor proxies for actual crime rates, especially because of the phenomenon of underreporting (Pinotti, 2020). Third, the number of incoming cases is a more precise and relevant variable in capturing the workload of prosecutors and courts compared to the mere number of reported crimes. Fourth, the Italian Constitution establishes the principle of mandatory prosecution, so that all cases must be prosecuted whenever it is reasonable to believe that a crime has been committed. Consequently, the number of incoming cases at courts, i.e. the number of cases prosecuted, can be considered as a good proxy for actual crime rates in Italian judicial districts.

[181] Recall that, according to the Law and Economics literature, longer trials impose greater costs on both parties, thus increasing the incentives towards plea bargaining.

[182] Along the same lines, Chemin et al. (2023) finds that the construction of new court buildings in Kenya improved the perception of the judiciary among citizens and induced a greater use of the court system for the resolution of contractual disputes.

defendants, in comparison with plea bargaining and penal orders. Hence, I expect a lower use of plea bargaining and penal orders in richer districts.[183]

A third requirement for valid instruments is the independence assumption, also called "as good as random assignment" assumption (Cunningham, 2021). This assumption states that the instrumental variable is independent from unobservable variables that might affect the explanatory and the outcome variables. This might be especially worrying when employing the number of judges per inhabitants as an instrument, since this variable is typically not assigned randomly but based on policy considerations. In particular, more judges might be assigned to districts that need them more, for example because trials tend to last longer due to limited resources, an average higher complexity of cases, or other reasons. However, the assignment of judges to districts often mirrors the administrative subdivision of Italy, which is in turn determined by historical reasons, thus reflecting conditions that are not existent anymore, or that are not directly related to the functioning of the courts.[184] Furthermore, the minimum number of judges assigned to a district is fixed, and it does not grow proportionally with other factors, such as increased caseloads or larger populations, so that the relationship between factors affecting the work of courts and the number of judges is not systematic in most cases. Finally, even in front of changes in the workload, the organizational response is usually very slow, and it is also shaped by political considerations, often in contrast to actual organizational needs. The issue will be further addressed in subsection 4.3.2., when considering the most recent reform about the territorial organization of Italian courts.

4.5. Data

The present section describes the variables and their respective sources. Table 4.1. reports summary statistics for the variables used in the main analysis.

As outcome variables, I employ three different measures for the use of trial-avoiding procedures. The use of plea bargaining is measured by the percentage of plea-bargaining cases over the total number of cases disposed by monocratic courts (pb_mono) and judicial panels (pb_coll). The use of penal orders is measured by the percentage of opposed penal orders over

[183] The underlying assumption is that most defendants are tried for activities carried out in the same judicial district where they live. Consequently, defendants in richer districts are assumed to be on average richer than defendants in poorer districts.

[184] For example, some areas where more populous than the surrounding region during past centuries, thus being granted a status that still holds today, or they were included in the dominion of one dynasty instead of another, thus being designed as independent provinces despite having smaller populations and similar features of adjacent administrative provinces.

the total number of issued penal orders (po_opp). In robustness tests I also use the percentage of plea-bargaining cases over the total number of cases disposed by G.I.P. and G.U.P. offices (pb_gip)[185]. A total of 42.088 plea agreements were concluded in Italy in 2022, the majority of which (57,85%) were reviewed by G.I.P. and G.U.P. offices (respectively 13.159 and 11.190 cases). However, the main function of G.I.P. and G.U.P. offices is not the adjudication of criminal cases. Indeed, decisions that impose the discontinuation of prosecution or that set a date for trial constituted 87,35% of all decisions issued by those offices in 2022. Hence, the use of plea bargaining as an adjudication procedure is better captured by the proportion of cases decided by trial courts. In robustness tests I employ different measures of plea-bargaining, by including in the total number of disposed cases: for monocratic courts, cases decided as second-instance courts for the justices of the peace (pb_mono_pace); for judicial panels, cases decided by the assize court, considered as a special type of judicial panel (pb_coll_assise).[186] I personally computed all the variables described above, starting from raw data obtained upon request by the Statistics Department of the Italian Ministry of Justice (DG-Stat).

Regarding the main explanatory variable, the average duration of first-instance trials in days is directly provided by DG-Stat for monocratic courts (durata_mono) and judicial panels (durata_coll).

Coming to control variables, I computed the number of incoming cases per 1,000 inhabitants by using two different sources of data. The raw number of incoming cases is again provided by DG-Stat with reference to different judicial offices, while data about the population of municipalities is provided by ISTAT (Italian Institute of Statistics). Differently from previous works about the functioning of first instance courts in Italy (Dalla Pellegrina, 2008; Buonanno and Galizzi, 2014) I use first-instance judicial districts as the basic unit of analysis, instead of administrative provinces (NUTS level 3).[187] Hence, I created a variable measuring the population of each first-instance judicial district (pop), by assigning each municipality to the

[185] The Ministry of Justice reports jointly the total number of cases disposed by G.I.P. and G.U.P. offices, so it is not possible to compute separate plea-bargaining rates.

[186] I do not use such variables in the main analysis, since plea bargaining cannot be applied in cases decided by justices of the peace, and because the use of such procedure is extremely limited, both *de jure* and *de facto*, in assize courts. As shown by Table A.1. in Appendix A, plea-bargaining rates are pretty similar to those used in the main analysis.

[187] In most cases the territory of first-instance judicial districts (*circondario*) overlaps with that of administrative provinces. However, in many cases a single province includes several first-instance judicial districts (e.g. the provinces of Messina and Reggio Calabria include 3 *circondari* each), or conversely more than one province are included in a single first-instance judicial district (e.g. the *circondario* of Cagliari includes the provinces of Cagliari and South Sardinia), or some municipalities are not included in the judicial district corresponding to the respective province.

respective Tribunal. The resulting novel dataset covers the period 2002-2022 and each of the 140 first-instance judicial districts.[188] I then computed the number of incoming cases per 1,000 inhabitants for monocratic courts (inc_ab_mono), including cases decided as second-instance court for the justices of the peace (inc_ab_mono_pace), for judicial panels (inc_ab_coll), including assize courts (inc_ab_coll_ass), and for G.I.P. and G.U.P. offices together (inc_ab_gip).[189]

Table 4.1. Summary statistics

	N	Mean	SD	Min	Max
PB – Monocratic courts	2372	12.358	7.431	.162	42.601
PB – Judicial panels	2372	3.2	4.774	0	44.444
PO opposed	2372	41.347	23.153	0	300
Trial duration – Monocratic	2372	509.886	263.857	4.384	1846.943
Trial duration – Judicial panels	2372	593.985	253.031	67.5	1816.649
Incoming cases – Monocratic	2372	6.034	2.488	.175	21.137
Incoming cases – Judicial panels	2372	.225	0.123	.004	.908
Incoming cases – GIP and GUP	2372	14.897	5.638	.732	56.056
Inhabitants	2372	426137.1	381431.6	57158	2820219
GDP per capita	2372	24836.38	7054.343	13800	55800
Judges per 1,000 inhabitants	2372	.039	0.021	.012	.151
Average yearly temperature	2240	15.889	1.920	10.59	21.28

Note: PB stands for plea bargaining, PO stands for penal orders.

For income levels (income) I used GDP per capita at current market prices provided by Eurostat for NUTS 3 level, corresponding to Italian administrative provinces, since comparable data are not available at the municipal level. I then assigned income levels to each first-instance judicial district, based on the province in which the respective Tribunal is located.

For the first instrument (judge_ab), I first obtained the number of criminal law judges in each first-instance judicial district over the period 2002-2022 upon request from the Statistical Office of the Italian Judicial Council (C.S.M.). I then used those data and the variable pop to compute the number of judges per 1,000 inhabitants in each first-instance judicial district.[190]

[188] I used as reference the territorial organization established by a 2012 reform, entered into force in 2014, that abolished 31 first-instance judicial districts. The reason for such choice is that data are provided by the Ministry of Justice with reference to the new territorial organization, also for years preceding 2014. An existing dataset (Nifo and Vecchione, 2022) also reports the population of each first-instance judicial district, but it is limited to the period 2005-2021 and it does not include several judicial districts whose abolition was decided by the 2012 reform, but which are still functioning to date (e.g. Avezzano and Fermo).

[189] As mentioned above, data provided by the Ministry of Justice do not distinguish the number of incoming and disposed cases between G.I.P. and G.U.P. offices.

[190] As mentioned above, the dataset "Justice" does not include 4 first-instance judicial districts whose abolition was decided by the 2012 reform, but which are still functioning. Each abolished judicial district was merged with another one. Hence, I retrieved from the official website of the corresponding tribunal the number of judges in the

For the second instrument (temper), I used the yearly average temperature in the capital of each administrative province in Celsius degrees for the years 2006-2021, as provided by ISTAT.[191] I then assigned the average temperature to each first-instance judicial district, based on the province in which the respective Tribunal is located. This method should ensure accuracy of the results, since Tribunals are located in the provincial capitals, unless the province itself is split among more first-instance judicial districts. Even in the latter case, the territorial extension of provinces is limited and rather homogeneous in terms of average temperature.

4.6. Results and discussion

4.6.1. Baseline analysis: OLS with fixed effects

Table 2 reports the results of OLS regressions that include district fixed effects and all the variables later used in the IV analysis.[192]

Table 4.2. Baseline analysis – OLS with fixed effects

VARIABLES	(1) pb_mono	(2) pb_coll	(3) po_opp
Trial duration - Monocratic court	-0.020***		0.029***
	(0.000)		(0.000)
Incoming cases - Monocratic court	-0.322***		1.721***
	(0.001)		(0.000)
Trial duration - Judicial panel		-0.006***	
		(0.000)	
Incoming cases - Judicial panel		3.851*	
		(0.083)	
Incoming cases – G.I.P.			-0.543***
			(0.001)
GDP per capita	-16.901***	-8.734***	28.270***
	(0.000)	(0.000)	(0.000)

district that was supposed to be merged, and I deducted it from the number of judges in the merging district, as reported by the dataset "Justice". In this way I was able to compute the density of criminal law judges for all 140 functioning first-instance districts.

[191] When data were missing for a specific year, I used the corresponding temperature from the previous year. For Gorizia, since data were totally missing, I used the average yearly temperature of the closest provincial capital, Udine, distant 38 km.

[192] According to the most recent literature (Kropko and Kubinek, 2020; Imai and Kim, 2021) the use of two-way fixed effects, i.e. the simultaneous inclusion of observation and time fixed effects, will lead to biased and uninterpretable results, unless under the assumption of linear additive effects. Since I cannot support the latter assumption in my sample, I only apply judicial-district fixed effects throughout the whole chapter. Furthermore, when including time fixed effects in the present analysis, the instruments are no longer strong, thus resulting in unreliable estimates (Andrews et al., 2018). The reason is that the instruments' variance between (across judicial districts) is much higher than the variance within (across years). Including time fixed effects in the OLS baseline analysis does not alter the results' significance levels with regard to plea bargaining, while trial duration is not significant anymore with regard to penal orders. See Appendix A.6.

Inhabitants	-21.467***	-2.203	34.157
	(0.004)	(0.587)	(0.263)
Observations	2,372	2,372	2,372
R-squared	0.719	0.383	0.240
District FE	Yes	Yes	Yes

Note: Robust standard errors, clustered at the judicial-district level.
Incoming cases per 1,000 inhabitants. Natural logarithm of GDP per capita and inhabitants.
*** p<0.01, ** p<0.05, * p<0.1

Trial duration is statistically significant at the 1% level and with the expect sign in every column. The same is true for income levels, proxied by GDP per capita. The population size of the judicial district is significant only in column 1, which considers plea bargaining in monocratic courts, with the expected negative sign and at the 1% level. The number of incoming cases in monocratic courts is statistically significant at 1% level and with the expected sign both in column 1 and in column 3, which considers the opposition to penal orders. When a penal order is opposed, the subsequent trial can be held either before a monocratic court or a judicial panel. However, since penal orders are used in petty cases that do not require the imposition of a prison sentence, in most cases the competent court is the monocratic one. For example, in 2022 only 16 oppositions to penal orders were decided by judicial panels, in contrast with 18.852 opposition cases decided by monocratic courts. For this reason, I consider the duration of monocratic court trials as the main explanatory variable for the use of penal orders. In column 3 I further consider the number of incoming cases both for monocratic courts, which are usually the competent ones in the case of opposition, and for G.I.P. offices, since they are the competent court for issuing penal orders. Defendants will consider the flow of incoming cases in monocratic courts when deciding whether to oppose a penal order, since the opposition will most likely result in a monocratic-court trial. Prosecutors will instead observe the number of incoming cases in G.I.P. offices, as a proxy for the size of their own caseload, when deciding whether to issue a penal order in the first place. The number of incoming cases in monocratic courts is the only marginally significant variable in column 3, with the expected positive sign. The number of incoming cases at GIP offices is negatively correlated with oppositions to penal orders, at the 1% significance level. This might indicate that prosecutors impose more lenient fines when they face a higher caseload, and this in turn reduces the number of penal orders opposed.[193] In the case of judicial panels, reported in column 2, more incoming cases are marginally correlated with a greater use of plea bargaining, in contrast with my expectations. Since judicial panels decide more serious crimes, a possible explanation is that, in the presence

[193] Recall that, through penal orders, prosecutors might impose fines reduced up to half of the statutory minimum.

of a larger caseload, prosecutors are willing to offer plea bargaining in cases that they would have otherwise brought to trial.

4.6.2. IV analysis: Density of judges

Table 4.3. shows the results of first stage regressions. In the regressions I included all the control variables used in the second stage, together with judicial-district fixed effects. Robust standard errors are clustered at the judicial-district level.

Table 4.3. First stage – IV: Criminal law judges per 1,000 inhabitants

Instrumented variable	**pb_mono** durata_mono	**pb_coll** durata_coll	**po_opp** durata_mono
Instrumental variable			
Criminal law judges per inhabitants	26969.5***	19201.78***	26334.3***
	(0.000)	(0.000)	(0.000)
Weak identification test			
Kleibergen-Paap rk Wald F statistic:	25.870	22.683	30.135
Stock-Yogo weak ID test critical values:			
10% maximal IV size	16.38	16.38	16.38
15% maximal IV size	8.96	8.96	8.96
20% maximal IV size	6.66	6.66	6.66
25% maximal IV size	5.53	5.53	5.53

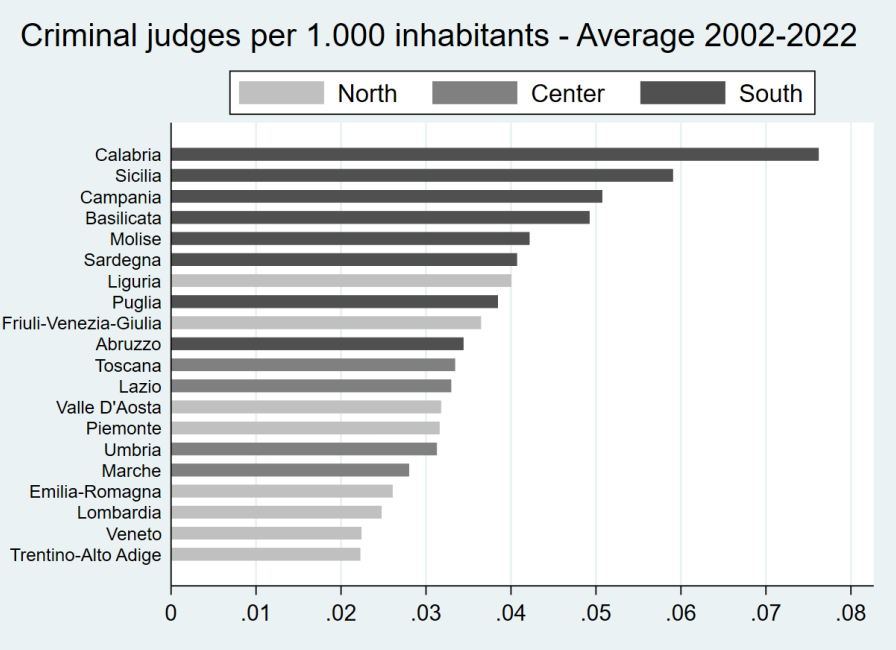
Note: *** p<0.01, ** p<0.05, * p<0.1

The density of judges is statistically a strong instrument, since for all three regressions the coefficients of the Kleibergen-Paap rk Wald F statistic are well above the 10% confidence level set by the Stock-Yogo test.[194] However, the coefficients are positive, in contrast with my expectations: a positive coefficient means that a higher density of criminal law judges is associated with longer criminal trials. Several factors can explain such result. First, the presence of more judges in the same judicial district may dilute the responsibility placed on each individual judge for the overall performance of the court, thus resulting in slacking and in longer trial duration. Second, it is possible that larger courts, characterized by a higher number of judges, are more difficult to manage, thus resulting in organizational inefficiencies and in longer trial duration. Finally, it may happen that both the number of criminal law judges and the

[194] The Kleibergen-Paap rk Wald F statistic is used instead of the Cragg-Donald Wald F statistic when using clustered or robust standard errors, and I cluster errors at the judicial-district level. In order to test whether the instrument is strong, the value of the Kleibergen-Paap rk Wald F statistic is compared with the critical values indicated by the Stock-Yogo test. Higher values ensure greater strength of the instrument. See Stock and Yogo (2005) and Kleibergen and Paap (2006).

duration of criminal trials are simultaneously influenced by a third variable. As depicted in Figure 4.3., this seems to be the case in Italy, since the number of judges per 1,000 inhabitants is systematically higher in southern regions, which are affected by a longer and more pervasive presence of organized crime.

Figure 4.4. First-instance criminal law judges per 1,000 inhabitants, by Region



Over the period 2002-2022 the average number of criminal law judges per 1,000 inhabitants in the South (0,052) is nearly double than in the Center (0,032) and in the North (0,028). In particular, the top three regions by density of criminal law judges are Calabria (0,076), Sicily (0,059), and Campania (0,051). Those regions are the birthplaces and traditional operational areas of the three most powerful Italian criminal organizations.[195] The observed correlation between a stronger presence of organized crime and a higher density of criminal law judges is confirmed by regulatory choices about the organization of first-instance judicial districts. In 2013 the new judicial district of Napoli Nord was created in the metropolitan area of Naples, while a 2012 reform imposed the abolition of many judicial districts but specifically preserved those situated in areas characterized by a stronger presence of criminal organizations.[196]

[195] Those organizations are respectively called *'ndrangheta*, *cosa nostra*, and *camorra*.

[196] The impact of organized crime on the territory was explicitly indicated as one of the guiding criteria for the reform of judicial districts. The judicial districts of Caltagirone, Sciacca, Lamezia Terme, Castrovillari, and Paola, located between Sicily and Calabria, were specifically preserved because of the pervasive presence of organized crime, despite the initial provision of their suppression. See Act 155/2012 and accompanying materials at https://leg16.camera.it/561?appro=652#paragrafo3057.

Thus, the prevalence of organized crime influences the density of judges in each first-instance judicial district. At the same time, it may negatively impact the duration of criminal trials. A possible mechanism is the overinvestment of judicial and police resources in the investigation and prosecution of organized-crime cases, at the expenses of common crimes. Indeed, criminal trials involving members of criminal organizations might last longer because of the difficulties in building strong prosecutorial cases against them.[197] The necessity of holding longer trials for such crimes will lead in turn to a slowdown of all court activities. At the same time, the hearing of organized-crime cases might be prioritized over that of common crimes, thus leading to a further increase in the duration of common criminal proceedings.

The correlation between trial duration, the number of criminal law judges, and a third variable, in this case the presence of organized crime, might threaten the validity of the exclusion restriction. However, plea bargaining cannot be applied in organized-crime cases punished with more than 2-year imprisonment, and those crimes are anyway assigned to the exclusive jurisdiction of judicial panels. A specific exclusion is not provided in the case of penal orders, but it is difficult to imagine an organized-crime case in which the prosecutor may opt for such procedure, since it only allows the imposition of a discounted fine.[198] For these reasons, the results referring to monocratic courts and penal orders should be unaffected by the prevalence of organized crime in a given judicial district. However, the incidence of plea bargaining might be diluted in judicial panels, if the total number of disposed cases includes a particularly high proportion of organized-crime cases. Nonetheless, the concern is reduced when considering that plea-bargaining is not allowed also in other categories of cases, such as sexual crimes or terrorism, if the applicable sentence is above 2 years imprisonment. Hence, the incidence of organized-crime cases should be disproportionate not only in comparison with common crimes, but also with other excluded cases, in order to sensibly dilute the use of plea bargaining in judicial panels. Nevertheless, the results of the IV analysis referred to judicial panels might be interpreted with greater caution.

In the above discussion I pointed out how organized-crime cases are unlikely to be disposed of through penal orders or in monocratic courts. However, it is possible that jurisdictions

[197] It is notoriously hard to break the bonds between the members of criminal organizations and to turn them into crown witnesses. At the same time, the territorial presence of the organizations hinders the cooperation between citizens and public authorities, both during the investigations and at trial.

[198] As recalled above, in 2022 only 16 cases of oppositions to penal orders were decided by judicial panels, which are the only court with jurisdiction over organized-crime cases. Even in the unrealistic circumstance that all those oppositions involved organized-crime cases, they would have amounted to 0,085% of all oppositions to penal orders, thus not significantly undermining the validity of the estimations.

characterized by a higher presence of organized crime, and thus by a higher number of judges per capita, are also characterized by the prevalence of certain categories of crimes, e.g. drug-trafficking, exploitation of prostitution, extortion etc. Insofar as those categories of crimes are associated with a different rate of use of penal orders and plea bargaining compared to other crimes, the validity of the exclusion restriction is threatened. In order to address this concern, I exclude from the analysis those districts characterized by high and medium-high permeability to organized crime, according to the index developed by Eurispes (2020).[199] Even when considering only the 59 first-instance judicial districts characterized by low and medium-low permeability to organized crime, the instrument remains strong and significant. Additionally, in the first-stage regression, the number of criminal law judges per inhabitant is still positively correlated with trial duration. This result seems to indicate that the two alternative explanations, i.e. the dilution of individual judge's incentives and organizational inefficiencies, prevail over the explanation that links longer trial duration to a higher number of judges per capita via a higher presence of organized crime. In turn, the second-stage regression confirms the results of the main analysis. Appendix F, Table 4.8 reports the analysis that excludes judicial districts characterized by a higher presence of organized crime.

Table 4.4. reports the results of the second-stage regressions. Trial duration again shows the expected sign, and it is statistically significant at the 1% level in all columns. With reference to plea bargaining in judicial panels and oppositions to penal orders, the coefficients are around double in size compared to the coefficients of the OLS regression.

All variables included in column 1 are statistically significant at the 1% level, and they display the expected sign: more incoming cases, higher income levels, and a larger population are associated with a lower use of plea bargaining in monocratic courts. In column 2 the number of incoming cases in judicial panels is not significant anymore, while in the OLS regression it was significant at the 5% level, but with the opposite sign of what expected in theory. Higher income levels are associated with a lower use of plea bargaining before judicial panels as well, with 5% significance. The number of inhabitants in the judicial district is instead not significant in column 2. A possible explanation is that the functioning of judicial panels is not significantly

[199] The index assigns each Italian Province to one of the following four categories, based on its permeability to organized crime: high; medium-high; medium-low; low. The index is based on 19 indicators, including socio-demographic and economic characteristics, and the prevalence of certain categories of crimes. Overall, the indicators consider 163 variables observed over several years. As for yearly temperatures and GDP levels, I assigned to each first-instance judicial district the index's value corresponding to the Province in which the judicial district's capital is located. Accordingly, 81 first-instance judicial districts in the sample are characterized by high and medium-high permeability to organized crime, while the remaining 59 districts by medium-low and low permeability.

different between more and less populous districts. Indeed, every judicial panel must be composed of 3 judges, regardless of any characteristic of the judicial district, and the number of incoming cases is never above the hundreds, even in the more populous ones.[200] In column 3, besides the duration of trial, the number of incoming cases in monocratic courts is the only significant variable, at the 1% level, and with the expected positive sign. As mentioned above, the number of incoming cases in monocratic courts is the relevant variable for the defendant's opposition choice. Differently from the OLS regression, the number of incoming cases at the G.I.P. office is not statistically significant. The number of inhabitants in the judicial district is only marginally significant, and with the expected positive sign.

Table 4.4. Second stage – IV: Criminal law judges per 1,000 inhabitants

VARIABLES	(1) pb_mono	(2) pb_coll	(3) po_opp
Trial duration - Monocratic judge	-0.026***		0.064***
	(0.000)		(0.000)
Incoming cases - Monocratic	-0.441***		2.260***
	(0.000)		(0.000)
Trial duration - Judicial panel		-0.011***	
		(0.000)	
Incoming cases - Judicial panel		2.796	
		(0.225)	
Incoming cases - GIP			-0.259
			(0.173)
GDP per capita	-11.530***	-5.188**	0.290
	(0.002)	(0.015)	(0.980)
Inhabitants	-24.004***	-2.635	49.042*
	(0.000)	(0.554)	(0.062)
Observations	2,372	2,372	2,372
Number of districts	140	140	140
District FE	Yes	Yes	Yes

Note: Robust standard errors, clustered at the judicial-district level.
Incoming cases per 1,000 inhabitants. Natural logarithm of GDP per capita and inhabitants.
*** p<0.01, ** p<0.05, * p<0.1

4.6.3. IV analysis: Average yearly temperature

Table 4.5. reports the results of the first stage regressions when using the average yearly temperature as instrument.[201] As before, I included in the regressions all the control variables

[200] The only exception is the judicial-panel court of Rome, with 1.745 incoming cases in 2022. However, the first-instance judicial district of Rome is also exceptional in terms of population, with 2.749.031 inhabitants in 2022, well above the second most populous first-instance judicial district, which was Torino with 1.657.481 inhabitants.
[201] For reasons of data availability, the analysis is limited to the period 2006-2021, while data about the density of judges were available for the period 2005-2021.

used in the second stage, together with judicial-district fixed effects. Robust standard errors are clustered at the judicial-district level.

Table 4.5. First stage – IV: Average yearly temperature

	pb_mono	**pb_coll**	**po_opp**
Instrumented variable	durata_mono	durata_coll	durata_mono
Instrumental variable			
Average yearly temperature	70.88641***	49.58678***	65.34475***
	(0.000)	(0.000)	(0.000)
Weak identification test			
Kleibergen-Paap rk Wald F statistic:	33.727	14.431	31.430
Stock-Yogo weak ID test critical values:			
10% maximal IV size	16.38	16.38	16.38
15% maximal IV size	8.96	8.96	8.96
20% maximal IV size	6.66	6.66	6.66
25% maximal IV size	5.53	5.53	5.53

Note: *** p<0.01, ** p<0.05, * p<0.1

The average yearly temperature in the judicial district is strongly and positively correlated with trial duration. This means that, as expected in theory, higher average temperatures are associated with longer criminal trials. The coefficient of the Kleibergen-Paap rk Wald F statistic is well above the 10% confidence level set by the Stock-Yogo test for monocratic courts and penal orders, while it is slightly below the 10% threshold, but well above the 15% one, for judicial panels. Consequently, also in this case the results regarding judicial panels might be interpreted with greater caution.

Table 4.6. reports the results of the second stage regressions. In line with previous analysis, the duration of trials is statistically significant at the 1% level, and it shows the expected sign in all columns, while the size of the coefficient is notably larger. This means that longer trials decrease the number of plea agreements both in monocratic courts and judicial panels, while they increase the oppositions to penal orders.

Differently from Table 4.4., income levels are never significant. Columns 1 and 2 do not display any other difference in terms of significance or direction of the results, compared to previous analysis. In column 3 the coefficient referred to the number of incoming cases at trial is again positive and statistically significant at the 1% level. The population size of the judicial district is again positively correlated with oppositions to penal orders, with increased significance at the 5% level.

Table 4.6. Second stage – IV: Average yearly temperature

VARIABLES	(1) pb_mono	(2) pb_coll	(3) po_opp
Trial duration - Monocratic court	-0.040***		0.090***
	(0.000)		(0.000)
Incoming cases - Monocratic court	-0.743***		2.800***
	(0.000)		(0.000)
Trial duration - Judicial panel		-0.017***	
		(0.001)	
Incoming cases - Judicial panel		1.559	
		(0.522)	
Incoming cases – G.I.P.			-0.091
			(0.709)
GDP per capita	0.812	-0.655	-21.676
	(0.858)	(0.855)	(0.206)
Inhabitants	-30.262***	-3.220	65.937**
	(0.000)	(0.539)	(0.023)
Observations	2,232	2,232	2,232
Number of districts	140	140	140
District FE	Yes	Yes	Yes

Note: Robust standard errors, clustered at the judicial-district level.
Incoming cases per 1,000 inhabitants. Natural logarithm of GDP per capita and inhabitants.
*** p<0.01, ** p<0.05, * p<0.1

Appendix A reports the analysis performed on different measures of plea bargaining, including cases decided by the monocratic court as second-instance court, cases decided by assize courts, and plea agreements reviewed by G.I.P. and G.U.P. offices. In Appendix A, as in the main analysis, I use both the density of judges and the average yearly temperature as instruments. The results show the same significance and pretty much the same coefficients of the main analysis for monocratic courts, judicial panels, and penal orders. Regarding plea agreements reviewed by the G.I.P. and G.U.P. offices, when using the density of judges as instrument, the duration of trial is only marginally significant, with the expected negative sign and a very small coefficient. However, when using the average temperature as an instrument, the duration of trial is not significant anymore. A possible explanation is that defendants that accept plea agreements already during the investigation stage are strongly averse to the trial option, hence they do not consider the expected trial duration as a relevant decision factor. Another possibility is that the percentage of plea bargaining in G.I.P. and G.U.P. offices is not a good measure for the actual use of such procedures, since the overwhelming majority of cases disposed by G.I.P. and G.U.P. do not involve decisions on the merits. The number of incoming cases in the G.I.P. and G.U.P. offices is instead statistically significant at the 1% level when using either of the instruments,

and it shows the expected negative sign. This might indicate that defendants do not accept plea bargaining offers when they observe a higher caseload of courts during the investigation stage. A higher caseload can indeed anticipate a lengthier disposal of each case and higher chances of acquittal because of the statute of limitations. This result, together with the marginal significance of trial duration, may indicate that the expected duration of proceedings is a relevant decision factor also during the investigation phase for defendants.

Appendix F, Table 4.9 reports the results of analysis using average yearly temperature as instrument and excluding districts characterized by high and medium-high permeability to organized crimes. This robustness test addresses the possible concern that judicial districts characterized by higher average yearly temperature are the same characterized by a stronger presence of organized crime, considering the prevalence of the latter in the warmer southern regions of Italy. The results of the main analysis are confirmed in this robustness test.

Appendix F, Table 4.10 instead reports the results of an additional robustness test, in which the instrument is constituted only by the average temperature in judicial districts from the beginning of June to the end of August during the period 2005-2021.[202] The underlying assumption is that especially warm days during the summer are more likely to result in delayed and shortened court hearings, compared to especially warm days in other seasons. I personally computed the average summer temperatures for each first-instance judicial district based on daily observations provided by an environmental agency of the Italian government (ISPRA), as recorded by weather stations located in the capital of judicial districts, or in their proximities.[203] All results obtained in the main analysis are confirmed when considering only average temperatures from June to August.

4.7. Conclusions

The average duration of first-instance criminal trials has steadily increased in Italy over the last twenty years. Over the same period, the use of plea bargaining and penal orders has decreased, in contrast with the predictions of the economic models of plea bargaining (Landes, 1971; Adelstein, 1978).

A lower use of trial-avoiding procedures results in more ordinary trials. Under resource constraints, this causes an increase in the average duration of trials. However, I argue that

[202] These are the warmest months in all Italian Regions. Schools are also closed during the entire period, to avoid the discomfort of having lessons with summer temperatures.
[203] Data source: https://scia.isprambiente.it/servertsdailyutm/serietemporalidaily400.php#Help.

causality also runs in the opposite direction in Italy, so that longer trials induce a decrease in the use of trial-avoiding procedures. The reason is the peculiar regulation of the Italian statute of limitations, which makes a longer trial more attractive for defendants in comparison to a quick disposition of their case. Indeed, if defendants are not convicted within a limited time, they must be acquitted, even if trial has already been opened.

In order to identify the effects of trial duration on the use of plea bargaining and penal orders, I rely on instrumental variable analysis. I use two different instruments for trial duration: the number of criminal law judges per 1,000 inhabitants and the average yearly temperature in each first-instance judicial district. By analyzing a panel of all 140 Italian first-instance judicial districts over the period 2005-2021 I find that longer first-instance trials decrease the use of both plea bargaining and penal orders. In particular, every additional 90 days of duration of criminal trials decreases the use of plea bargaining between 2.34 and 3.6 percentage points in monocratic courts and between 0.99 and 1.53 percentage points before judicial panels. The same additional delay increases the oppositions to penal orders between 5.76 and 8.1 percentage points. Among other significant factors, a larger population and more incoming cases are associated with less plea bargaining in monocratic courts, and with more oppositions to penal orders. Higher income levels are associated with less plea bargaining in both monocratic courts and judicial panels, but only when using the density of judges as instrument. The results of the main analysis are confirmed when using different measures for the use of plea bargaining.

The results are in line with the hypothesis according to which the Italian statute of limitations reduces defendants' incentives towards the use of trial-avoiding mechanisms, since longer trials increase their chances of acquittal. The results are also in line with the main message of the Law and Economics literature on plea bargaining, since defendants opt for trial-avoiding procedures only when they expect a worse outcome at trial (Adelstein, 2019). However, the analysis also shows that longer disposition times do not always increase the costs of trial for defendants, as normally assumed by the economic models of plea bargaining (Landes, 1971; Adelstein, 1978).

Chapter 2 has shown the relevance of plea bargaining and penal orders for the functioning of contemporary criminal justice systems worldwide. The present chapter shows how the institutional context is crucial in determining the success or failure of trial-avoiding procedures as legal transplants. In doing so, it expands the empirical literature about the drivers of use of plea bargaining in individual jurisdictions outside the U.S., reporting also the first empirical analysis about the defendant's choice to oppose penal orders.

Future research might test whether, in the absence of statutes of limitations similar to the Italian one, longer trials cause a larger use of trial-avoiding procedures, as expected by the economic models of plea bargaining. Another possible venue for future research is the study of other jurisdiction-specific factors that prevent a widespread use of trial-avoiding procedures, in contrast with the aims and expectations of policymakers.

Coming to possible policy implications, the results of the analysis advocate for a reform of the Italian statute of limitations. Rather than being a remedy to excessive disposition times, the Italian statute of limitations contributes to the observed increase in the average duration of trials. In fact, by increasing the chances of acquittal in case of longer trials, it disincentivizes the use of trial-avoiding procedures by defendants. The consequent larger use of ordinary trials, under resource constraints, results in higher average trial durations.

Appendix F IV analysis with different measures of plea bargaining rates

Table 4.7. Summary statistics, main and extended IV analysis

	N	Mean	SD	Min	Max
PB – Monocratic courts	2372	12.358	7.431	.162	42.601
PB – Monocratic court, including appeal cases from Justices of the peace	2372	12.185	7.343	.16	42.601
PB – Judicial panels	2372	3.2	4.774	0	44.444
PB – Judicial panels, including assize courts	2372	3.127	4.713	0	44.444
PB – GIP and GUP	2372	4.285	2.451	.16	16.311
PO opposed	2372	41.347	23.153	0	300
Trial duration – Monocratic courts	2372	509.886	263.857	4.384	1846.943
Trial duration – Judicial panels	2372	593.985	253.031	67.5	1816.649
Incoming cases – Monocratic courts	2372	6.034	2.488	.175	21.137
Incoming cases – Monocratic court, including appeal cases from Justices of the peace	2372	6.121	2.517	.175	21.186
Incoming cases – Judicial panels	2372	.225	0.123	.004	.908
Incoming cases – Judicial panels, including assize courts	2372	.229	0.126	.006	.908
Incoming cases – GIP and GUP	2372	14.897	5.638	.732	56.056
Inhabitants	2372	426137.1	381431.6	57158	2820219
GDP per capita	2372	24836.383	7054.343	13800	55800
Judges per 1,000 inhabitants	2372	.039	0.021	.012	.151
Average yearly temperature	2240	15.889	1.920	10.59	21.28
Average summer temperature	2378	29.842	1.920	23.45	37.408

Note: PB stands for plea bargaining PO stands for penal orders

Table 4.8. IV: Judges – Excluding districts with more organized crime

Panel A: First stage

Instrumented variable	**pb_mono** durata_mono	**pb_coll** durata_coll	**po_opp** durata_mono
Instrumental variable			
Criminal law judges per inhabitants	50851.1***	38551.42***	47976.89***
	(0.000)	(0.009)	(0.000)
Weak identification test			
Kleibergen-Paap rk Wald F statistic:	68.315	16.225	56.003
Stock-Yogo weak ID test critical values:			
10% maximal IV size	16.38	16.38	16.38

15% maximal IV size	8.96	8.96	8.96
20% maximal IV size	6.66	6.66	6.66
25% maximal IV size	5.53	5.53	5.53

Panel B: Second stage

VARIABLES	(1) pb_mono	(2) pb_coll	(3) po_opp
Trial duration - Monocratic court	-0.030***		0.052***
	(0.000)		(0.000)
Incoming cases - Monocratic court	-0.293		1.685**
	(0.219)		(0.018)
Trial duration - Judicial panel		-0.009**	
		(0.010)	
Incoming cases - Judicial panel		5.550	
		(0.120)	
Incoming cases – G.I.P.			-1.129***
			(0.000)
GDP per capita	-1.960	-4.880**	-11.300*
	(0.320)	(0.011)	(0.050)
Inhabitants	-75.691***	-28.705**	205.938***
	(0.000)	(0.015)	(0.000)
Observations	1,003	1,003	1,003
Number of districts	59	59	59
District FE	Yes	Yes	Yes

Note: Robust standard errors, clustered at the judicial-district level.
Incoming cases per 1,000 inhabitants. Natural logarithm of GDP per capita and inhabitants.
*** p<0.01, ** p<0.05, * p<0.1

Table 4.9. IV: Yearly temperatures – Excluding districts with more organized crime

Panel A: First stage

Instrumented variable	**pb_mono** durata_mono	**pb_coll** durata_coll	**po_opp** durata_mono
Instrumental variable			
Average yearly temperature	39.24833***	33.77648**	31.69407***
	(0.000)	(0.027)	(0.001)
Weak identification test			
Kleibergen-Paap rk Wald F statistic:	15.999	7.549	10.887
Stock-Yogo weak ID test critical values:			
10% maximal IV size	16.38	16.38	16.38
15% maximal IV size	8.96	8.96	8.96
20% maximal IV size	6.66	6.66	6.66
25% maximal IV size	5.53	5.53	5.53

Panel B: Second stage

	(1)	(2)	(3)

VARIABLES	pb_mono	pb_coll	po_opp
Trial duration - Monocratic court	-0.074***		0.132***
	(0.000)		(0.001)
Incoming cases - Monocratic court	-1.747***		3.865***
	(0.006)		(0.010)
Trial duration - Judicial panel		-0.015**	
		(0.027)	
Incoming cases - Judicial panel		5.107	
		(0.145)	
Incoming cases – G.I.P.			-0.438
			(0.335)
GDP per capita	12.798***	-3.110	-35.946***
	(0.006)	(0.154)	(0.001)
Inhabitants	-30.266	-31.738**	149.418**
	(0.285)	(0.013)	(0.017)
Observations	944	944	944
Number of districts	59	59	59
District FE	Yes	Yes	Yes

Note: Robust standard errors, clustered at the judicial-district level.
Incoming cases per 1,000 inhabitants. Natural logarithm of GDP per capita and inhabitants.
*** p<0.01, ** p<0.05, * p<0.1

Table 4.10. IV: Average summer temperatures

Panel A: First stage

	pb_mono	**pb_coll**	**po_opp**
Instrumented variable	durata_mono	durata_coll	durata_mono
Instrumental variable			
Average summer temperatures	24.008***	14.487***	21.840***
	(0.000)	(0.009)	(0.000)
Weak identification test			
Kleibergen-Paap rk Wald F statistic:	27.677	6.874	24.516
Stock-Yogo weak ID test critical values:			
10% maximal IV size	16.38	16.38	16.38
15% maximal IV size	8.96	8.96	8.96
20% maximal IV size	6.66	6.66	6.66
25% maximal IV size	5.53	5.53	5.53

Panel B: Second stage

	(1)	(2)	(3)
VARIABLES	pb_mono	pb_coll	po_opp
Trial duration - Monocratic court	-0.036***		0.110***
	(0.000)		(0.000)
Incoming cases - Monocratic court	-0.644***		3.058***
	(0.000)		(0.000)

Trial duration - Judicial panel		-0.023**	
		(0.016)	
Incoming cases - Judicial panel		0.803	
		(0.784)	
Incoming cases – G.I.P.			0.178
			(0.564)
GDP per capita	-1.046	-0.443	-18.419*
	(0.612)	(0.846)	(0.067)
Inhabitants	-28.003***	-4.421	79.826***
	(0.000)	(0.522)	(0.004)
Observations	2,362	2,362	2,362
Number of districts	140	140	140
District FE	Yes	Yes	Yes

Note: Robust standard errors, clustered at the judicial-district level.
Incoming cases per 1,000 inhabitants. Natural logarithm of GDP per capita and inhabitants.
*** p<0.01, ** p<0.05, * p<0.1

Table 4.11. IV: Judges per 1,000 inhabitants, additional offices

Panel A: First stage

Instrumented variable	**pb_mono_pace** durata_mono_pace	**pb_coll_ass** durata_coll_assise	**pb_gip** durata_mono_pace	**po_opp** durata_mono_pace
Instrumental variable				
Criminal law judges per inhabitants	26974.93***	19179.05***	26334.3***	26334.3***
	(0.000)	(0.000)	(0.000)	(0.000)
Weak identification test				
Kleibergen-Paap rk Wald F statistic:	25.880	22.690	30.132	30.132
Stock-Yogo weak ID test critical values:				
10% maximal IV size	16.38	16.38	16.38	16.38
15% maximal IV size	8.96	8.96	8.96	8.96
20% maximal IV size	6.66	6.66	6.66	6.66
25% maximal IV size	5.53	5.53	5.53	5.53

Panel B: Second stage

VARIABLES	(1) pb_mono_pace	(2) pb_coll_ass	(3) pb_gip	(4) po_opp
Trial duration - Monocratic court	-0.026***		-0.001*	0.063***
	(0.000)		(0.086)	(0.000)
Incoming cases - Monocratic	-0.437***		0.025	2.258***
	(0.000)		(0.341)	(0.000)
Trial duration - Judicial panel		-0.011***		
		(0.000)		
Incoming cases - Judicial panel		2.941		

		(0.191)		
Incoming cases - GIP			-0.108***	-0.262
			(0.000)	(0.171)
GDP per capita	-11.156***	-5.158**	-0.685	0.404
	(0.003)	(0.013)	(0.387)	(0.972)
Inhabitants	-24.107***	-2.783	2.501	48.831*
	(0.000)	(0.520)	(0.240)	(0.062)
Observations	2,372	2,372	2,372	2,372
Number of districts	140	140	140	140
District FE	Yes	Yes	Yes	Yes

Note: Robust standard errors, clustered at the judicial-district level.
Incoming cases per 1,000 inhabitants. Natural logarithm of GDP per capita and inhabitants.
*** p<0.01, ** p<0.05, * p<0.1

Table 4.12. IV: Average yearly temperature, additional offices

Panel A: First stage

Instrumented variable	**pb_mono_pace** durata_mono_pace	**pb_coll_ass** durata_coll_assise	**pb_gip** durata_mono_pace	**po_opp** durata_mono_pace
Instrumental variable				
Average yearly temperature	70.96423***	49.37372***	65.39442***	65.39442***
	(0.000)	(0.000)	(0.000)	(0.000)
Weak identification test				
Kleibergen-Paap rk Wald F statistic:	33.896	14.296	31.543	31.543
Stock-Yogo weak ID test critical values:				
10% maximal IV size	16.38	16.38	16.38	16.38
15% maximal IV size	8.96	8.96	8.96	8.96
20% maximal IV size	6.66	6.66	6.66	6.66
25% maximal IV size	5.53	5.53	5.53	5.53

Panel B: Second stage

VARIABLES	(1) pb_mono_pace	(2) pb_coll_ass	(3) pb_gip	(4) po_opp
Trial duration - Monocratic	-0.040***		-0.002	0.090***
	(0.000)		(0.137)	(0.000)
Incoming cases - Monocratic	-0.727***		0.021	2.789***
	(0.000)		(0.543)	(0.000)
Trial duration - Judicial panel		-0.016***		
		(0.001)		
Incoming cases - Judicial panel		1.904		
		(0.418)		
Incoming cases - GIP			-0.113***	-0.095
			(0.000)	(0.699)
GDP per capita	1.022	-0.871	-0.726	-21.426
	(0.820)	(0.802)	(0.467)	(0.211)
Inhabitants	-30.146***	-3.346	1.846	65.590**
	(0.000)	(0.506)	(0.396)	(0.024)

Observations	2,233	2,233	2,233	2,233
Number of districts	140	140	140	140
District FE	Yes	Yes	Yes	Yes

Note: Robust standard errors, clustered at the judicial-district level.
Incoming cases per 1,000 inhabitants. Natural logarithm of GDP per capita and inhabitants.
*** p<0.01, ** p<0.05, * p<0.1

Table 4.13. OLS with two-way fixed effects

VARIABLES	(1) pb_mono	(2) pb_coll	(3) po_opp
Trial duration - Monocratic court	-0.009***		0.002
	(0.000)		(0.625)
Incoming cases - Monocratic court	-0.168**		0.635*
	(0.047)		(0.095)
Trial duration - Judicial panel		-0.004***	
		(0.000)	
Incoming cases - Judicial panel		5.717**	
		(0.011)	
Incoming cases – G.I.P.			-0.213
			(0.150)
GDP per capita	-5.662**	-0.292	8.497
	(0.021)	(0.899)	(0.353)
Inhabitants	-18.682***	-3.848	6.887
	(0.000)	(0.227)	(0.799)
Observations	2,372	2,372	2,372
R-squared	0.816	0.445	0.344
District FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Note: Robust standard errors, clustered at the judicial-district level.
Incoming cases per 1,000 inhabitants. Natural logarithm of GDP per capita and inhabitants.
*** p<0.01, ** p<0.05, * p<0.1

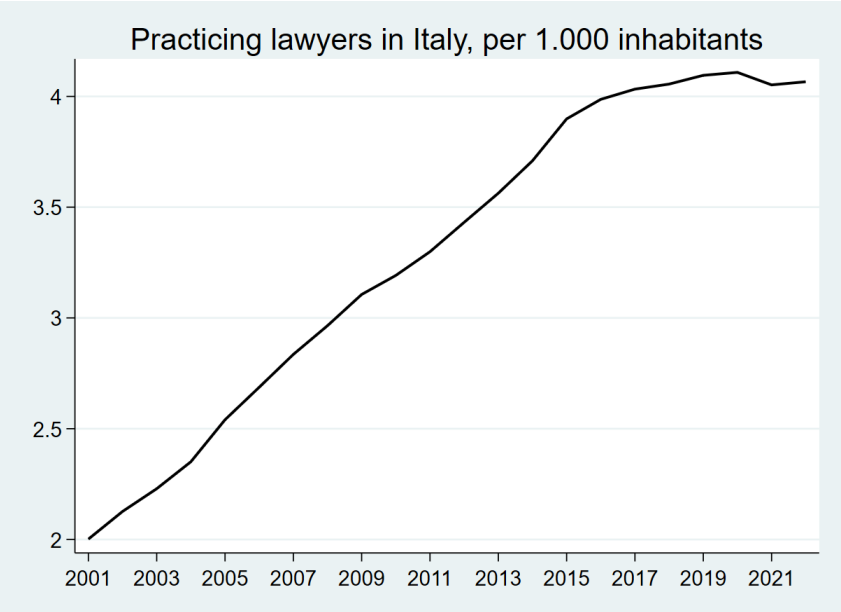
Chapter 5 Lawyers' incentives and the use of administratization procedures: evidence from Italy

5.1. Introduction

The present chapter explores how lawyer's financial incentives can influence the use of plea bargaining and penal orders. It does so by focusing on Italy as a case study, because of the particularly high competition on the market for legal services in Italy, which should produce relevant consequences for the use of administratization procedures.

In fact, Italy is the country with the highest absolute number of practicing lawyers among the members of the Council of Europe, and the third highest rate of lawyers per inhabitants (CEPEJ, 2022). Furthermore, as depicted in Figure 5.1, the competition for legal services has increased at a fast pace, with the number of practicing lawyers more than doubling over the last twenty years, from 114.086 in 2001 to 240.019 in 2021. At the same time, the average gross personal income of lawyers has decreased, and it is currently below the levels of 2001, as depicted in Figure 5.2.

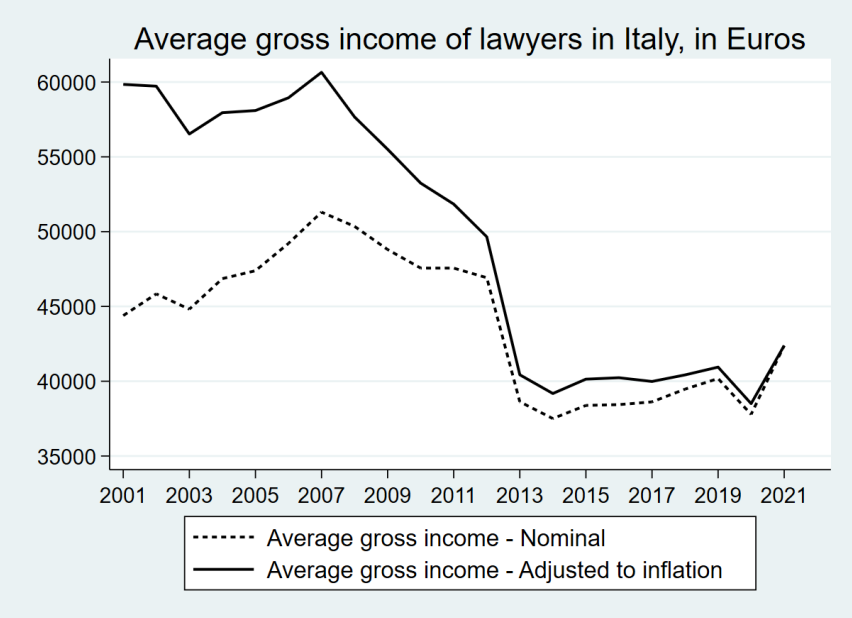
Figure 5.1. Lawyers per inhabitants in Italy



Legal services can be characterized as credence goods (Darby and Karni, 1973) since lawyers know more than their clients about the type and quality of service needed and provided (Dulleck and Kerschbamer, 2006). In times of increased competition, providers of credence goods might exploit their information advantage and maximize their financial gains by inducing their clients

into purchasing goods or services they do not actually need. This phenomenon, known as overtreatment or supply-induced demand, was first empirically verified with reference to physicians (Evans, 1974) and more recently with reference to lawyers. In particular, Carmignani and Giacomelli (2010) and Buonanno and Galizzi (2014) found evidence of supply-induced demand in the context of civil litigation in Italy: more lawsuits are brought to trial in districts characterized by a higher density of lawyers.

Figure 5.2. Income of lawyers in Italy



The economic models of plea bargaining have traditionally disregarded the agency relationship between defendants and their lawyers, by treating plea bargaining as a two-parties contract between defendants and prosecutors (Landes, 1971; Adelstein, 1978; Grossman and Katz, 1983; Reinganum, 1988). A more recent strand of literature has criticized this approach as oversimplistic, by emphasizing the importance of lawyers' self-interest in shaping the outcome of plea negotiations (Bibas, 2004; Garoupa and Stephen, 2008). Along these lines, Stephen et al. (2008) found that the passage from payments for work done to a flat-rate payment for public defense lawyers in Scotland resulted in more guilty pleas, since the new remuneration scheme incentivized plea bargaining as a quick way to dispose of the caseload. The same arguments can be extended to penal orders, a trial-avoiding conviction mechanism not discussed in the Law and Economics theoretical literature but increasingly relevant for the functioning of criminal justice systems worldwide, as shown in Chapter 2. Since lawyers' fees increase with the number of procedural acts they perform, and since the same acts are paid more in Italy when performed at trial, lawyers' financial incentives run against the use of trial-avoiding procedures.

These financial incentives should be especially compelling where the competition for clients is fiercer. Following Carmignani and Giacomelli (2010) and Buonanno and Galizzi (2014) I proxy the level of market competition by the number of practicing lawyers per inhabitants in a judicial district. Through instrumental variable analysis, I find a lower use of plea bargaining and penal orders in judicial districts characterized by a higher density of lawyers, supporting the existence of supply-induced demand also in the domain of criminal procedure.

The chapter is organized as follows. Section 5.2 describes the institutional background, with special regard for the regulation of the legal profession, the legal design of plea bargaining and penal orders, and the organization of the court system. Section 5.3 discusses the estimation approach, the variables included in the empirical analysis, and the corresponding data. Section 5.4. reports and discusses the results of the empirical analysis, while Section 5.5. concludes.

5.2. Institutional background

5.2.1. The legal profession

A first requirement for becoming a lawyer in Italy is holding a law degree. After obtaining a high school diploma anyone can enroll in a law school, since no selection mechanism is in place. After the five years generally needed for obtaining a law degree, an 18-month apprenticeship is required to qualify for the bar examination. The examination itself consists of several stages, and it usually takes one additional year to be completed. As a result, a minimum of 8 years elapses between enrolling in law school and becoming a lawyer.

After successfully passing the bar examination, lawyers must enroll in a public register, supervised by the bar association (*Ordine degli avvocati*). Additionally, practicing lawyers must register in a national pension fund (*Cassa Nazionale Forense*) and pay an annual contribution. Lawyers can practice in any area of expertise, such as criminal law, family law, etc., without the need for additional qualifications.

Coming to remuneration, official tables periodically adjourned by the Ministry of Justice indicate a range for determining the amounts due for legal services, based on the procedural stage in which the service itself is provided (e.g. investigation, preliminary hearing, trial) and its nature (e.g. requests for documents, preparation of the case for trial etc.). Those tables constitute mandatory reference for judges when establishing lawyers' fees, e.g. for publicly appointed lawyers. The same tables are commonly used as reference also when privately negotiating the price for legal services (Carbone, 2023). In general, lawyers' fees increase with

the number and complexity of acts performed, and the same acts are paid more when performed during the trial stage.

5.2.2. Administratization procedures in Italy

As discussed in Chapter 4, the Italian code of criminal procedure provides for two administratization mechanisms: a plea-bargaining procedure, informally called *patteggiamento*, and a penal-order procedure, called *decreto penale di condanna*.

The plea-bargaining procedure allows the imposition of a criminal conviction upon joint request of the prosecutor and the defendant, without the necessity of holding trial. The sentence imposed though plea bargaining is reduced by up to one third compared to what would have been imposed at trial. The applicability of the procedure is limited to crimes punished with up to 5-year imprisonment. However, if a prison sentence above 2 years would be imposed, plea bargaining is not applicable to terrorism-related crimes, organized crime, some sexual crimes, and if the defendant is a recidivist. Plea agreements can only be concluded before the opening of first-instance trials and they are subject to judicial scrutiny. Judges shall verify that plea negotiations have been conducted in accordance with the law and they can only accept or reject the agreement, without modifying its content. A conviction imposed through plea bargaining cannot be appealed.

According to the penal order procedure, the prosecutor may ask the judge to impose a fine on the defendant already during the investigation stage, if the evidence gathered is strong enough. Before issuing a penal order, the judge checks whether a fine is the appropriate punishment, and whether no causes exist that would have prevented a conviction at trial. If the judge imposes the penal order, this is notified to the defendant, who can oppose it within 15 days and opt for trial. Otherwise, the fine becomes final, and it equates to a criminal conviction. The sentence imposed through penal order is typically discounted, in order to disincentivize the defendant’s opposition, and it can be reduced up to half of the minimum sentence mandated by law for the crime. Throughout the chapter it is assumed that most defendants contact a lawyer when being notified of a penal order, in order to seek advice about whether to oppose it or not.

5.2.3. The court system

During the investigation phase any act affecting individuals' constitutional rights, like searches and seizures, must be authorized by a specific judge, called G.I.P. (Judge assigned to the preliminary investigation). The G.I.P. also decides on prosecutors' requests for penal orders and reviews plea agreements concluded during the investigation stage. At the end of the

investigations, prosecutors may request the G.I.P. to either dismiss the case or to set a trial date. If the charged crime is not a felony, or if it is statutorily punishable with less than 4-year ' imprisonment, the G.I.P. directly sets a date for trial. Before the opening of trial, prosecutors and defendants can still reach a plea agreement, which is then reviewed by the trial court.

In the case of felonies and offences punished with more than 4-year imprisonment, a preliminary hearing precedes trial. During the preliminary hearing a different judge, called G.U.P. (Judge assigned to the preliminary hearing) may indicate the need for supplementary investigations, refuse altogether to schedule trial, or set a trial date. The G.U.P. also reviews plea agreements concluded between the end of the investigations and the end of the preliminary hearing itself.

In summary, plea bargaining can take place: a) during the investigations, and be reviewed by the G.I.P.; b) after the investigations but before the opening of trial, and be reviewed by the trial court; c) after the investigations but before the end of the preliminary hearing, for crimes that require this stage, and be reviewed by the G.U.P. Instead, penal orders can only be imposed by the G.I.P., upon prosecutorial request, during the investigation stage.

After the pre-trial stage, first-instance trials can take place either before monocratic courts or judicial panels. Monocratic courts have general jurisdiction over all crimes, besides those assigned to judicial panels, and they also act as appellate courts for cases decided in first instance by justices of the peace.[204] The jurisdiction of judicial panels is instead limited to crimes punished above 10-year imprisonment and to a few serious crimes enumerated by law, like terrorism, rape, and bankruptcy-related fraud. Special judicial-panel courts, called assize courts, have jurisdiction over homicide cases and few other crimes deemed cause of social alarm. Proceedings before the assize court require the participation of lay judges.

The assistance of a defense lawyer is mandatory for any procedural act that takes place before a judge.

All first-instance courts described above are organized in Tribunals, whose jurisdiction extends over a territory called *circondario*. The Italian territory is currently organized into 140 first-instance districts (*circondari*).

[204] Justices of the peace have jurisdiction over a series of petty crimes enumerated by law. They cannot impose prison sentences or fines above 2.582 euros. Plea bargaining and penal orders do not apply to cases decided by justices of the peace.

5.3. Estimation approach and variables

5.3.1. Estimation approach

Given the nature of credence goods of legal service, lawyers might exploit their informational advantage at the expenses of their clients, to maximize their financial gains. In the context of Italian criminal procedure this might result in a lower use of plea bargaining and penal orders. The reason is that lawyers' fees increase with the quantity and complexity of legal services provided, and the same acts are paid more when performed at trial (Carbone, 2023). Instead, plea bargaining and penal orders allow for a quick disposal of criminal cases, without the need of holding trial. In addition, convictions imposed through plea bargaining cannot be appealed, further reducing lawyers' potential financial returns. Consequently, lawyers might advise their clients against the use of trial-avoiding procedures, especially when facing fiercer competition on the market for legal services.[205] Following Carmignani and Giacomelli (2010) and Buonanno and Galizzi (2014) I proxy the intensity of market competition by the number of lawyers per inhabitants in a judicial district: a lower use of plea bargaining and penal orders should be observed in judicial districts characterized by a higher number of lawyers.

Figures 5.3. to 5.5. provide preliminary evidence supporting the hypothesis, since more lawyers correlate with less plea bargaining, both in monocratic courts and in judicial panels, and with more oppositions to penal orders. However, it is possible that lawyers establish more often their offices in districts where defendants already prefer ordinary trials over trial-avoiding procedures. A possible additional concern is the simultaneous effect of unobservable factors on both the number of lawyers and the use of trial-avoiding procedures. To overcome endogeneity issues, I rely on instrumental variable analysis. This approach requires finding a variable, called instrument, which is directly related to the explanatory variable (relevance condition), but at the same time not related to the outcome variable (exclusion restriction), unless because of its influence on the explanatory variable itself (Woolridge, 2018). In this case a good instrument should be directly related to the number of lawyers in a judicial district, but not with the use of plea bargaining and penal orders in the same district.

[205] Reputational concerns might limit lawyers' opportunistic behavior. However, overtreatment should prevail for two reasons. On the one hand, given the nature of credence goods of lawyerly services, it is hard for past and potential clients to assess the quality of the professional service provided by a lawyer. On the other hand, reputational concerns might still contribute to the choice of trial over administratization procedures. Indeed, as discussed in Chapter 4, lawyer might adopt delaying tactics in order to obtain an acquittal because of the statute of limitations. Consequently, clients will observe an acquittal instead of a conviction following plea bargaining or penal orders and might then positively assess the quality of the lawyerly service.

Figure 5.3. Lawyers and plea bargaining in monocratic courts

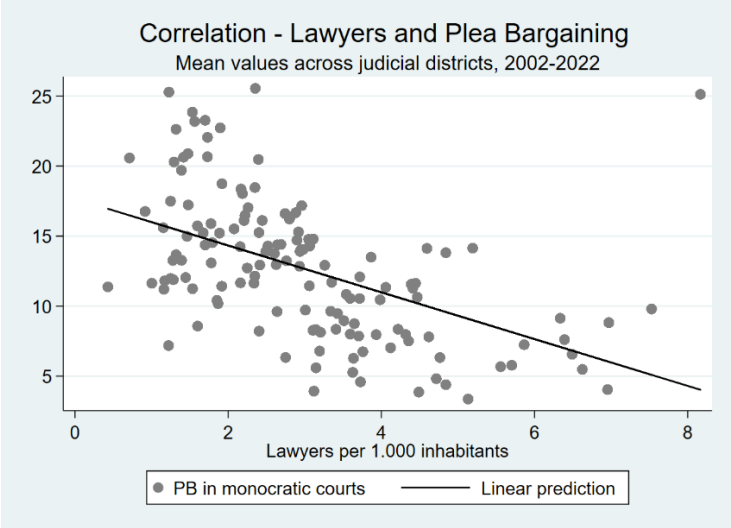


Figure 5.4. Lawyers and plea bargaining in judicial panels

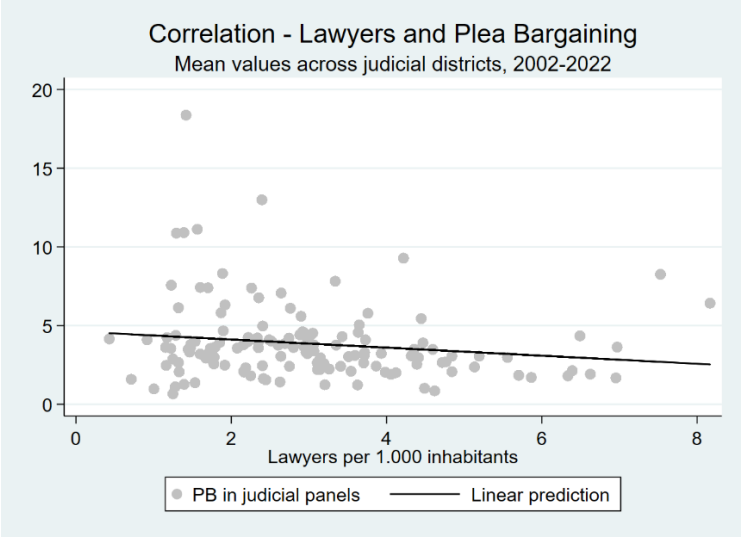
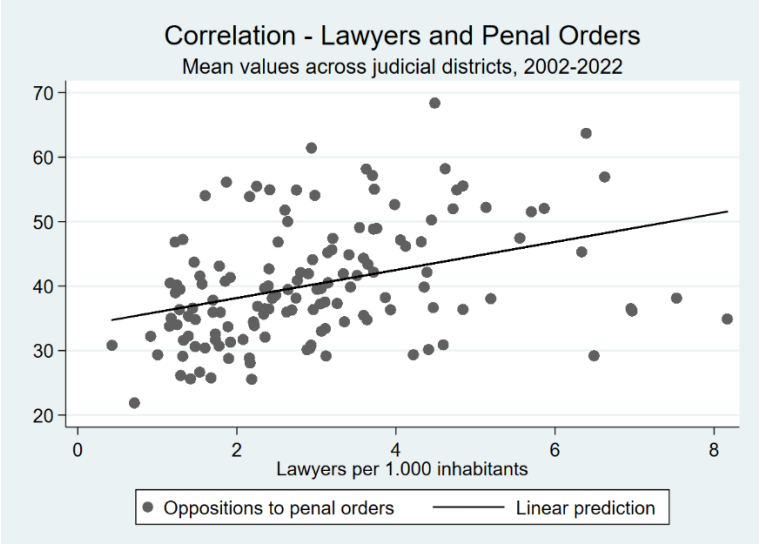


Figure 5.5. Lawyers and penal orders



5.3.2. Instrumental variables

I instrument the number of lawyers in a judicial district in two different ways.

The first instrument is the percentage of high school graduates from humanities high school (*liceo classico*) over the total number of high school graduates in each judicial district and year. Students in Italy can choose among different types of high school, each one focused on a different set of subjects, e.g. math and science, foreign languages, social studies etc. The curriculum of humanities high schools is especially focused on the teaching of Latin, ancient Greek, and philosophy. Consequently, students graduating from humanities are less likely to study hard sciences at university (Almalaurea, 2023). At the same time, they may choose to not continue with humanities, considering the lower employment rates and expected salaries (Almalaurea, 2023). A popular option is then law school, since it does not require any specific proficiency in hard sciences, while traditionally granting higher income levels. In addition, until the 1960s, only students graduating from humanities high schools could enroll in law schools. Even if the law has changed, the tradition has survived, and the law profession is still regarded as one of the most natural and prestigious career paths for humanities high school graduates (Almalaurea, 2023). In turn, after graduating from law school, becoming a lawyer is the most popular option. For these reasons, I expect a higher density of lawyers in judicial districts with a higher proportion of humanities high school graduates. This would ensure the relevance of the instrument. At the same time, the exclusion restriction should hold, since it is hard to imagine a direct link between a greater popularity of humanities high school and a lower use of trial-avoiding conviction mechanisms.

The second instrument recalls the one adopted by Carmignani and Giacomelli (2010) and Buonanno and Galizzi (2014) when testing the existence of supply-induced demand in civil litigation. Both studies, following Card (2001), proxy the costs of attending law school with the distance between a judicial district and the closest university offering a law degree. The reason is that most universities in Italy are public, hence the cost for commuting or living in a different city constitutes the greatest financial burden from attending law school. Since no new law schools were established in Italy after 2001, this instrument would be time-invariant in my sample. However, the total costs of attending law school do not only depend on the distance from law school, but also on the wealth of one's family of origin. In particular, those costs are lower for closer districts and wealthier families, while higher for farther districts and poorer families. Therefore, I proxy the financial costs of attending law school with the interaction

between GDPs per capita in judicial districts and the distance between the capital of a district and the closest university offering a law degree.

Since law school lasts at least 5 years, and after graduating it takes at least 3 more years to become lawyers, I use the 8-year lag of the relevant variables for both instruments. Following theory, judicial districts with more humanities high school graduates should also display more practicing lawyers per inhabitants.

5.3.2. Control variables

As shown in Chapter 4, a higher expected trial duration reduces the use of both plea bargaining and penal orders in Italy. The reason is that, according to the Italian statute of limitations, defendants must be acquitted if they are not convicted within a certain time since the alleged commission of the crime. Defendants may then prefer ordinary trials over trial-avoiding conviction mechanisms since a delayed disposition of their case increases their chances of acquittal. Along the same lines, a larger number of incoming cases should result in longer average disposition times, thus increasing the chances of incurring into the statute of limitations. Thus, longer disposition times at trial and more incoming cases should correlate with a lower use of plea bargaining and penal orders.

Regarding the size of judicial districts, Dalla Pellegrina (2008) argues that economies of scale should make larger courts more efficient, while Boari and Fiorentini (2001) reports that the average disposition time for criminal trials in Italy in the early 2000s was six times larger in large cities compared to the smaller ones. In his pioneer study, Landes (1971) observed a greater use of plea bargaining in more populated counties, since the longer court delays of those districts made trials costlier for both defendants and prosecutors. Even without considering the actual efficiency of courts located in more populous districts, I argue that just observing a more crowded and chaotic court can induce in defendants an impression of inefficiency and an expectation of higher chances of incurring in the statute of limitations.[206] Hence, I expect a lower use of plea bargaining and penal orders in more populous judicial districts.

Prosecutors may face higher caseload pressure in districts characterized by less prosecutors per inhabitants. To facilitate caseload disposal, prosecutors will then resort to trial-avoiding procedures more often, by offering more advantageous plea agreements and by imposing more penal orders, discounted up to the maximum allowed by law. Consequently, I expect a higher

[206] Along the same lines, Chemin et al. (2023) finds that the construction of new court buildings in Kenya increased citizens' trust in the judiciary and led to a greater use of the court system for the resolution of contractual disputes.

use of plea bargaining and penal orders in judicial districts characterized by a lower density of prosecutors.

Since defense lawyers are paid more in case of longer and more complex proceedings, and that lawyers' fees are higher at the trial stage, opting for trial is a choice that wealthier defendants can afford more easily. Hence, I expect lower use of plea bargaining and penal orders in wealthier judicial districts.

5.3.3. Data

Table 5.1. reports summary statistics for the variables included in the analysis.

As outcome variables, I employ the same three different measures for the use of trial-avoiding procedures adopted in Chapter 4. The use of plea bargaining is measured by the percentage of plea-bargaining cases over all cases disposed by monocratic courts (pb_mono) and judicial panels (pb_coll). The use of penal orders is measured by the percentage of opposed penal orders over all issued penal orders (po_opp). In robustness tests I compute different plea-bargaining rates for monocratic courts, by including among the disposed cases those decided as second-instance court for the justices of the peace (pb_mono_pace). Similarly, for judicial panels I include cases disposed by the assize court (pb_coll_assise). However, I do not use such variables in the main analysis, since plea bargaining cannot be used in justices of the peace courts, and its use is extremely limited, both *de jure* and *de facto*, in assize courts. In robustness tests I also employ the plea-bargaining rate of G.I.P. and G.U.P. offices (pb_gip).[207] A total of 42.088 plea agreements were concluded in Italy in 2022, the majority of which (57,85%) were reviewed by G.I.P. and G.U.P. offices (respectively 13.159 and 11.190 cases). However, the main function of G.I.P. and G.U.P. is not the adjudication of criminal cases: discontinuing prosecution or scheduling trials constituted 87,35% of all decisions issued by those offices in 2022. Hence, the use of plea bargaining as an adjudication mechanism is better captured by the proportion of cases decided by trial courts. I personally computed all the variables described above, by using raw data obtained upon request by the Statistics Department of the Italian Ministry of Justice (DG-Stat).

As explanatory variable I use the number of practicing lawyers per 1,000 inhabitants in each judicial district (avv_ab). The number of practicing lawyers was provided upon request by the statistical office of the pension fund of lawyers (*Cassa Nazionale Forense*).

[207] It is not possible to compute separate plea-bargaining rates for G.I.P. and G.U.P., since the Ministry of Justice jointly reports the total number of cases disposed by those offices.

Table 5.1. Descriptive statistics

	N	Mean	SD	Min	Max
PB – Monocratic court	2094	11.623	7.065	.162	42.43
PB – Judicial Panel	2094	3.022	4.597	0	44.444
PO opposed	2094	42.961	23.190	0	100
Lawyers	2094	3.023	1.715	.303	10.852
Trial duration - Monocratic	2094	529.363	266.478	4.384	1846.943
Trial duration – Judicial Panel	2094	602.913	252.299	67.5	2029.667
Incoming cases - Monocratic	2094	6.061	2.509	.175	21.137
Incoming cases – Judicial Panel	2094	.229	0.124	.004	.908
Incoming cases - GIP	2094	14.782	5.540	.732	56.056
Prosecutors	2094	.031	0.016	.004	.127
Inhabitants	2094	427259.77	382046.273	57158	2820219
GDP per capita	2100	24971.81	7128.814	14300	55800
Graduates from humanities high school	2100	8.981	4.026	.384	25.02
Distance from law school	2100	33.289	29.022	1	105.6

As in Chapter 4, and differently from previous analysis (Dalla Pellegrina, 2008; Carmignani and Giacomelli, 2010; Buonanno and Galizzi, 2014), I use first-instance judicial districts as the basic unit of analysis, instead of Italian administrative provinces.[208]

Coming to the control variables, the average duration of first-instance trials in days is directly provided by DG-Stat for monocratic courts and judicial panels. Employing raw data provided by DG-Stat, I separately computed the number of incoming cases per 1,000 inhabitants for monocratic courts, for monocratic courts including cases decided as second-instance court for the justices of the peace, for judicial panels, for judicial panels including assize courts, and jointly for G.I.P. and G.U.P. offices.

I also computed the number of prosecutors per 1,000 inhabitants in each first-instance judicial district. The number of prosecutors was provided upon request by the statistical office of the Italian judicial council (*Consiglio Superiore della Magistratura*). For income levels I employ GDP per capita at current market prices with reference to Italian administrative provinces (NUTS 3 level) as provided by Eurostat. I then assigned to each first-instance judicial district the income level of the province in which the respective Tribunal is located.

[208] In most cases first-instance judicial districts overlap with administrative provinces. However, in many cases a single province includes several first-instance judicial districts (e.g. the provinces of Messina and Reggio Calabria include 3 judicial districts each), or conversely more than one province is included in a single first-instance judicial district (e.g. Cagliari and South Sardinia), while some municipalities are not included in the judicial district corresponding to the province they belong to. By using judicial districts instead of provinces not only I ensure greater accuracy in the construction of the variables, but I also retain more observations: Italy has 140 first-instance judicial districts but only 107 administrative provinces.

For the first instrument (*classico*), the total number of high school graduates and the number of graduates from humanities high school were provided upon request by the Ministry of Education for each administrative province and year in the period 2005-2022. I computed the percentage of humanities high school graduates, and then assigned it to each judicial district, based on the administrative province in which the corresponding Tribunal is located. For the second instrument (*dist_income*) I interacted the airline distance between each Tribunal and the closest law school with the GDP per capita at current market prices of the corresponding administrative province.

5.4. Empirical analysis

5.4.1. IV: graduates from humanities high school

Table 5.2. reports the first and second stage results of the instrumental variable analysis, using as instrument the 8-year lagged ratio of graduates from humanities high school in each judicial district. For reasons of data availability, the analysis covers the period 2012-2021.[209]

Table 5.2. IV: Humanities high school graduates

Panel A: First stage

	pb_mono	**pb_coll**	**po_opp**
Instrumented variable	avv_ab	avv_ab	avv_ab
Instrumental variable			
classico	.0568973***	.0592705***	.0561247***
	(0.000)	(0.000)	(0.000)
Weak identification test			
Kleibergen-Paap rk Wald F statistic:	68.958	68.034	67.65
Stock-Yogo weak ID test critical values:			
10% maximal IV size	16.38	16.38	16.38
15% maximal IV size	8.96	8.96	8.96
20% maximal IV size	6.66	6.66	6.66
25% maximal IV size	5.53	5.53	5.53

Panel B: Second stage

	(1)	(2)	(3)
VARIABLES	pb_mono	pb_coll	po_opp

[209] According to the most recent literature (Kropko and Kubinek, 2020; Imai and Kim, 2021) the use of two-way fixed effects, i.e. the simultaneous inclusion of observation and time fixed effects, will lead to biased and uninterpretable results, unless under the assumption of linear additive effects. Since I cannot support the latter assumption in my sample, I only apply judicial-district fixed effects throughout the whole chapter. Furthermore, when including time fixed effects in the present analysis, the instruments are no longer strong, thus resulting in unreliable estimates (Andrews et al., 2019).

Lawyers	-3.512***	-1.315	24.239***
	(0.000)	(0.178)	(0.000)
Trial duration - Monocratic court	-0.008***		-0.012
	(0.000)		(0.116)
Incoming cases - Monocratic	-0.147**		1.167
	(0.037)		(0.111)
Trial duration - Judicial panel		-0.004***	
		(0.000)	
Incoming cases - Judicial panel		1.569	
		(0.324)	
Incoming cases - GIP			-0.564*
			(0.064)
Prosecutors	-0.921	2.123	-692.560***
	(0.960)	(0.941)	(0.002)
GDP per capita	-5.545***	-4.010**	9.981
	(0.000)	(0.015)	(0.261)
Inhabitants	-2.344	-23.686*	193.544***
	(0.861)	(0.081)	(0.007)
Observations	1,260	1,260	1,260
Number of districts	140	140	140
District FE	Yes	Yes	Yes

Note: Robust standard errors, clustered at the judicial-district level.
Lawyers, prosecutors, and incoming cases per 1,000 inhabitants. Natural logarithm of GDP per capita and inhabitants.
*** p<0.01, ** p<0.05, * p<0.1

In the first stage regression, as expected, the number of lawyers is positively correlated with the number of humanities high school graduates, and the coefficients are statistically significant at the 1% level in each specification. The F-statistic is always above the critical values identified by the Stock and Yogo test for weak instruments.

In the second stage, the density of lawyers shows the expected sign, and it is statistically significant at the 1% level with reference to plea bargaining in monocratic courts and to oppositions to penal orders. However, it is not significant when considering plea bargaining in judicial panels.

As in Chapter 4, trial duration is associated with a lower use of plea bargaining in both monocratic courts and judicial panels, with 1% significance, while the number of incoming cases is associated with a lower use of plea bargaining only in monocratic courts. The number of prosecutors is only significant, at the 1% level, with reference to penal orders, but with a negative sign, contrary to what expected in theory. A possible explanation is that, in judicial districts with more prosecutors per capita, each individual prosecutor faces less workload pressure, thus being able to better investigate each case. The stronger evidence gathered this

way makes a conviction at trial more likely, thus discouraging defendants from opposing penal orders. Income levels are significant, with the expected negative sign, only in relation to plea bargaining. As expected, population size is positively associated with oppositions to penal orders, with 1% significance.

5.4.2. IV: financial costs of attending law school

Table 5.3. reports the first and second stage results of the instrumental variable analysis, using as instrument the 8-year lagged interaction between each judicial district's distance from the closest law school and GDP levels. Because of better data availability compared to the previous instrument, the analysis covers the period 2008-2021.

Table 5.3. IV: Cost of attending law school

Panel A: First stage

	pb_mono	**pb_coll**	**po_opp**
Instrumented variable	avv_ab	avv_ab	avv_ab
Instrumental variable			
dist_income	1.17e-06***	1.36e-06***	1.14e-06***
	(0.000)	(0.000)	(0.000)
Weak identification test			
Kleibergen-Paap rk Wald F statistic:	49.164	55.527	47.023
Stock-Yogo weak ID test critical values:			
10% maximal IV size	16.38	16.38	16.38
15% maximal IV size	8.96	8.96	8.96
20% maximal IV size	6.66	6.66	6.66
25% maximal IV size	5.53	5.53	5.53

Panel B: Second stage

	(1)	(2)	(3)
VARIABLES	pb_mono	pb_coll	po_opp
Lawyers	-9.370***	-5.017***	27.407***
	(0.000)	(0.000)	(0.000)
Trial duration - Monocratic court	-0.005**		-0.013*
	(0.022)		(0.063)
Incoming cases - Monocratic	0.061		0.590
	(0.668)		(0.249)
Trial duration - Judicial panel		-0.003***	
		(0.005)	
Incoming cases - Judicial panel		6.221**	
		(0.029)	
Incoming cases - GIP			-0.344
			(0.125)
Prosecutors	65.873**	68.498***	-443.472***

	(0.028)	(0.004)	(0.000)
GDP per capita	-14.317***	-4.290***	21.069***
	(0.000)	(0.005)	(0.008)
Inhabitants	-66.290***	-35.787***	154.878***
	(0.000)	(0.000)	(0.003)
Observations	1,955	1,955	1,955
Number of districts	140	140	140
District FE	Yes	Yes	Yes

Note: Robust standard errors, clustered at the judicial-district level.
Lawyers, prosecutors, and incoming cases per 1,000 inhabitants. Natural logarithm of GDP per capita and inhabitants.
*** p<0.01, ** p<0.05, * p<0.1

The coefficients of the first stage regression are again statistically significant at the 1% level, and the F-statistic is above the Stock and Yogo critical values. Hence, the instrument is relevant and strong.

Differently from previous analysis, the density of lawyers is statistically significant at the 1% level in all columns, and with the expected sign: a higher density of lawyers decreases the use of plea bargaining, both in monocratic courts and judicial panels, while it increases the oppositions to penal orders.

Trial duration is again statistically significant and with the expected negative sign with reference to plea bargaining. Instead, the number of incoming cases is now significant only with reference to plea bargaining in judicial panels, with an unexpected positive sign. A possible explanation is that prosecutors, when facing a higher caseload, offer plea agreements in cases that they would have otherwise brought to trial. The density of prosecutors is now statistically significant in all columns, being positively correlated with the use of plea bargaining and negatively correlated with the oppositions to penal order, in contrast with what expected in theory. A possible explanation, as discussed above, is that a higher density of prosecutors allows each individual prosecutor to conduct more thorough investigations. The higher quality of the evidence gathered increases the chances of conviction at trial, thus discouraging defendants from refusing plea agreements or opposing penal orders. Differently from previous analysis, income levels and population sizes are statistically significant at the 1% level in all columns, and with the expected signs.

Appendix G reports the results of IV analyses performed using the same instruments but different measures for the use of plea bargaining and some control variables. The main results are confirmed.

5.5. Conclusions

The number of practicing lawyers has more than doubled in Italy over the last two decades. Given the nature of credence goods of legal services, lawyers might react to the increased market competition by inducing their clients into paying for legal services that they might not actually need. Previous research (Carmignani and Giacomelli, 2010; Buonanno and Galizzi, 2014) has found evidence of supply-induced demand in the context of civil litigation, while this chapter extends the analysis to the domain of criminal procedure. Through instrumental variable analyses over a panel of 140 Italian first-instance judicial districts during the period 2008-2021, I find that a 1% increase in lawyers per 1,000 inhabitants reduced the use of plea bargaining in monocratic courts between 3,5 and 9,7 percentage points, while it increased oppositions to penal orders between 24,2 and 27,4 percentage points. Less robust evidence points towards a lower use of plea bargaining also in judicial panel courts, by around 5 percentage points.

Since financial returns for lawyers are higher at trial, these results can be interpreted as evidence of supply-induced demand in criminal proceedings. However, as shown in Chapter 4, defendants themselves might prefer longer trials over a quick disposal of their case in Italy. In fact, the Italian statute of limitations increases their chances of acquittal in case of longer proceedings, while plea bargaining and penal orders result in discounted but certain criminal convictions. If lawyers' financial incentives are aligned with the defendants' main interest of avoiding a criminal conviction, it is hard to normatively evaluate lawyers' behavior when they persuade their clients against the use of trial-avoiding procedures. Therefore, further research might explore whether supply-induced demand displays the same magnitude, and whether it exists altogether, in other jurisdictions, where lawyers' financial incentives run against the use of trial-avoiding procedures, but with different regulations of criminal statutes of limitations.

Overall, the analysis confirms the relevance of the agency relationship between lawyers and defendants (Bibas, 2004) and of lawyers' financial incentives (Stephen et al. 2008) for the use of plea bargaining in practice. Therefore, it offers support to the claim that the economic literature on plea bargaining is over-optimistic (Garoupa and Stephen, 2008) since it disregards the role of lawyers' self-interest when analyzing the social-welfare effects of plea agreements (Grossman and Katz, 1983; Reinganum, 1988).

Nearly all the existing empirical research on the drivers of use of plea bargaining is focused on the U.S. (Bandyopadhyay and McCannon, 2014; Subramanian et al., 2020), while this chapter adds to the few studies that explore the topic in civil law jurisdictions (Boari and Fiorentini, 2001). In doing so, it confirms the importance of peculiar institutional factors for determining

the success of plea bargaining as a legal transplant (Langer, 2004; Garoupa and Stephen, 2008). Further research is especially needed in this direction, considering the growing importance of trial-avoiding conviction mechanisms in contemporary criminal justice systems, as shown in Chapter 2.

Appendix G IV analysis with different measures of plea bargaining rates

Table 5.4. Descriptive statistics – More offices

	N	Mean	SD	Min	Max
PB – Monocratic court	2094	11.623	7.065	.162	42.43
PB – Monocratic, also as appeal court	2094	11.448	6.971	.16	41.929
PB – Judicial panel	2094	3.022	4.597	0	44.444
PB – Judicial panel and Assize court	2094	2.957	4.544	0	44.444
PB – GIP	2094	4.326	2.471	.16	16.222
PO opposed	2094	42.961	23.190	0	100
Lawyers	2094	3.023	1.715	.303	10.852
Trial duration – Monocratic court	2094	529.363	266.478	4.384	1846.943
Trial duration – Judicial panel	2094	602.913	252.299	67.5	2029.667
Incoming cases – Monocratic court	2094	6.061	2.509	.175	21.137
Incoming cases – Monocratic, also as appeal	2094	6.153	2.539	.175	21.186
Incoming cases – Judicial panel	2094	.229	0.124	.004	.908
Incoming cases – Judicial panel and Assize	2094	.234	0.127	.006	.908
Incoming cases – GIP	2094	14.782	5.540	.732	56.056
Prosecutors	2094	.031	0.016	.004	.127
Inhabitants	2094	427259.77	382046.273	57158	2820219
GDP per capita	2100	24971.81	7128.814	14300	55800
Graduates from humanities high school	2100	8.981	4.026	.384	25.02
Distance from law schools	2100	33.289	29.022	1	105.6

Table 5.5. IV: Humanities high school graduates – More offices

Panel A: First stage

Instrumented variable	**pb_mono_pace** avv_ab	**pb_coll_ass** avv_ab	**pb_gip** avv_ab	**po_opp** avv_ab
Instrumental variable				
dist_income	.0569176***	.0591407***	.0561462***	.0561462***
	(0.000)	(0.000)	(0.000)	(0.000)
Weak identification test				
Kleibergen-Paap rk Wald F statistic:	68.997	67.944	67.698	67.698
Stock-Yogo weak ID test critical values:				
10% maximal IV size	16.38	16.38	16.38	16.38
15% maximal IV size	8.96	8.96	8.96	8.96
20% maximal IV size	6.66	6.66	6.66	6.66
25% maximal IV size	5.53	5.53	5.53	5.53

Panel B: Second stage

VARIABLES	(1) pb_mono_	(2) pb_coll_ass	(3) pb_gip	(4) po_opp

	pace			
Lawyers	-3.498***	-1.291	-2.082***	24.216***
	(0.000)	(0.187)	(0.000)	(0.000)
Trial duration - Monocratic	-0.007***		0.000	-0.012
	(0.000)		(0.466)	(0.118)
Incoming cases - Monocratic	-0.139**		-0.058	1.179
	(0.043)		(0.223)	(0.102)
Trial duration - Judicial panel		-0.004***		
		(0.000)		
Incoming cases - Judicial panel		1.518		
		(0.341)		
Incoming cases - GIP			-0.121***	-0.568*
			(0.000)	(0.062)
Prosecutors	-1.275	4.174	18.549*	693.062***
	(0.944)	(0.883)	(0.084)	(0.002)
GDP per capita	-5.417***	-3.914**	-1.184*	9.932
	(0.000)	(0.018)	(0.067)	(0.263)
Inhabitants	-3.580	-23.558*	-6.024	191.902***
	(0.786)	(0.084)	(0.282)	(0.008)
Observations	1,260	1,260	1,260	1,260
Number of districts	140	140	140	140
District FE	Yes	Yes	Yes	Yes

Note: Robust standard errors, clustered at the judicial-district level.
Lawyers, prosecutors, and incoming cases per 1,000 inhabitants. Natural logarithm of GDP per capita and inhabitants.
*** p<0.01, ** p<0.05, * p<0.1

Table 5.6. IV: Cost of attending law school – More offices

Panel A: First stage

Instrumented variable	**pb_mono_pace** avv_ab	**pb_coll_ass** avv_ab	**pb_gip** avv_ab	**po_opp** avv_ab
Instrumental variable				
dist_income	2.89e-06***	3.48e-06***	2.77e-06***	2.77e-06***
	(0.000)	(0.000)	(0.000)	(0.000)
Weak identification test				
Kleibergen-Paap rk Wald F statistic:	41.662	46.961	35.927	35.927
Stock-Yogo weak ID test critical values:				
10% maximal IV size	16.38	16.38	16.38	16.38
15% maximal IV size	8.96	8.96	8.96	8.96
20% maximal IV size	6.66	6.66	6.66	6.66
25% maximal IV size	5.53	5.53	5.53	5.53

Panel B: Second stage

VARIABLES	(1) pb_mono_pace	(2) pb_coll_ass	(3) pb_gip	(4) po_opp

Lawyers	-5.521***	-3.110***	-0.032	16.143***
	(0.000)	(0.000)	(0.902)	(0.000)
Trial duration - Monocratic	-0.004		-0.001**	-0.014
	(0.147)		(0.037)	(0.122)
Incoming cases - Monocratic	-0.031		0.020	0.888*
	(0.827)		(0.493)	(0.076)
Trial duration – Judicial panel		-0.003**		
		(0.023)		
Incoming cases – Judicial panel		6.169**		
		(0.041)		
Incoming cases - GIP			-0.100***	-0.326
			(0.000)	(0.124)
Prosecutors	84.868**	86.845***	-8.050	498.126***
	(0.016)	(0.003)	(0.416)	(0.001)
GDP per capita	-13.876***	-3.421**	-1.182*	20.968***
	(0.000)	(0.029)	(0.060)	(0.007)
Inhabitants	-57.290***	-33.193***	1.478	128.208**
	(0.000)	(0.000)	(0.630)	(0.012)
Observations	1,955	1,955	1,955	1,955
Number of districts	140	140	140	140
District FE	Yes	Yes	Yes	Yes

Note: Robust standard errors, clustered at the judicial-district level.
Lawyers, prosecutors, and incoming cases per 1,000 inhabitants. Natural logarithm of GDP per capita and inhabitants.
*** p<0.01, ** p<0.05, * p<0.1

Chapter 6 Conclusion

This final chapter first provides a summary of the results presented in previous chapters. Additionally, it proposes possible avenues for future research.

6.1. Summary of results

This thesis had the overall aim of expanding the existing knowledge about the administratization of criminal convictions, i.e. the imposition of criminal convictions without trials. In doing so, it focused on the two administratization methods allowed in contemporary criminal procedure: penal orders and plea bargaining. Chapter 1 defined both procedures, highlighting the different role played by defendants' consent in each of them. In plea bargaining the defendant's consent constitute sufficient basis for the imposition of a criminal conviction. Consequently, plea bargaining is akin to the so-called consensual theories of truth, typically associated with adversarial proceedings. Conversely, the defendant's consent in penal orders provides legitimacy for the avoidance of adjudication at trial, but the criminal conviction itself is based on the results of an impartial investigation carried out by state officials, deemed as the best method to ascertain the objective truth. Penal orders then reflect the so-called correspondence theory of truth, typical of the inquisitorial model of criminal procedure.

Chapter 1 also introduced the following four research questions, that the thesis aimed to answer:

1) What is the current level of adoption and use of administratization procedures worldwide?

2) What factors influence a jurisdiction's choice of adopting administratization procedures?

3) What factors explain the different levels of use in practice of administratization procedures across jurisdictions?

4) What factors drive the use in practice of administratization procedures in individual jurisdictions?

Chapter 2 answered the first research question, by providing a detailed description of the current adoption and use of plea bargaining and penal orders worldwide. The chapter considered 174 jurisdictions in total, drawing from the results of personal research and of a survey circulated among legal experts in 77 jurisdictions. At least one administratization procedure is currently regulated in 125 jurisdictions (nearly 72% of the sample). Plea bargaining is the most widespread administratization procedure, being regulated in 101 jurisdictions (58% of the sample), while penal orders are regulated in 51 jurisdictions (29% of the sample). Among the

125 jurisdictions allowing for at least one administratization procedure, 74 only regulate plea bargaining and 24 only penal orders, while 27 jurisdictions regulate both. Plea bargaining is allowed by a significant number of jurisdictions across all regions, while the diffusion of penal orders is mainly limited to Europe, East Asia, North Africa and the Middle East. Jurisdictions that allow for both administratization methods are mostly concentrated in Europe.

Chapter 2 also described the historical trends in the adoption of administratization procedures. In line with the recent literature on disappearing trials, it documented the rampant expansion of administratization procedures over the last 30 years, mainly driven by the widespread diffusion of plea bargaining. The chapter also described how penal orders spread from Germany to other jurisdictions since the beginning of the 20th century, remaining the most popular administratization procedure until the 1990s. A probable reason for the earlier success of penal orders lies in the prestige of German legal doctrine especially during the first half of the 20th century. The later success of plea bargaining can be instead attributed to its identification with the adversarial system of criminal procedure, and to the popularity of the latter since the 1980s as a model for reform. In addition, the widespread adoption of plea bargaining was facilitated by the global appeal of U.S. legal solutions especially during the 1990s and the 2000s. In more recent years efficiency concerns seem to prevail over considerations linked to legal traditions, with the simultaneous introduction of both plea bargaining and penal orders through systemic reforms of criminal procedure.

Chapter 2 also documented the variation in the legal design of both plea bargaining and penal orders across jurisdictions. Regarding penal orders, the first major distinction is between the opposition model, that treats the lack of defendant's opposition within a certain time as implicit consent, and the consent model, which instead requires the expression of explicit consent by the defendant. Other legal design variations pertain the time required for opposing or accepting the order, the authorities legitimized to issue it, the types of sentences that can be imposed, and the possible benefits accorded to defendants. Regarding plea bargaining, a cluster analysis was performed, by considering the following four regulation areas: applicability of the procedure; possible contents of the negotiations; role of defense lawyers and victims; thoroughness of the judicial review of the agreement. As a result, each jurisdiction was assigned to one of three categories, corresponding to a minimal, intermediate, or maximal level or regulation of plea bargaining.

Finally, Chapter 2 tried to quantify the importance of administratization procedures for the functioning of criminal justice systems, by reporting administratization rates for 60 jurisdictions

in 2022. Such a rate is defined as the percentage of criminal convictions imposed through plea bargaining and penal orders over the total number of convictions imposed in a given jurisdiction and year. In this way, the thesis documented the prevalence of administratization methods all over the world and across legal traditions. In fact, administratization procedures accounted for the majority of criminal convictions in 40 jurisdictions (67% of the sample), while administratization rates were even above 90% in 12 jurisdictions (20% of the sample). In addition, for 35 jurisdictions it was possible to compute the administratization rate for each year during the period 2015-2022. Overall, the use of plea bargaining and penal orders remained stable over the period, particularly in jurisdictions with average administratization rates above 70%. Notable exceptions are Russia and Moldova, characterized by a decline in plea-bargaining rates respectively by 57 and 69%. Exceptional increases where registered in the Netherlands, with an increase of 72% in penal orders rates, and Latvia, with an increase of 132% in plea-bargaining rates and of 275% in penal order rates.

Chapter 3 provided answers to research questions 2) and 3), i.e. what factors influence a jurisdiction's choice of adopting an administratization procedure, and what factors influence the subsequent extent of its use in practice. However, the investigation has been limited to plea bargaining, because the reduced sample size would have prevented a meaningful cross-country analysis about penal orders.

Regarding the formalization of plea bargaining, the results of OLS regressions, confirmed by logit and probit models, show that legal origins play a major role. Several categorizations of legal traditions were adopted, starting with the one proposed by La Porta et al. (2008), then adopting one that distinguishes mixed legal origins from pure common law (Klerman et al., 2011), and finally distinguishing between former French colonies and other colonies of French civil law (Klerman et al., 2011). The chapter also adopted an original categorization primarily based on criminal procedure features, which distinguishes between English, French, German, Scandinavian, Socialist, and Spanish legal origins. In the analysis, the English legal origin, coinciding with common law, was always considered as the baseline category, because of the aforementioned identification between plea bargaining and the adversarial model. Regardless of the categorization adopted, the French and Scandinavian legal origins always appeared significantly and strongly negatively correlated with the formalization of plea bargaining. A majoritarian Muslim population, employed as a proxy for the influence of Islamic legal traditions, also displayed a significant and negative correlation. The reason is that Shariah principles are not conducive towards the imposition of discounted criminal convictions based

on the defendant's consent. A significant and positive correlation with the formalization of plea bargaining was instead displayed by democracies. The favored explanation is that democratic regimes place a higher emphasis on the protection of individuals' rights during criminal proceedings compared to authoritarian regimes. This in turn makes trials more cumbersome and not suitable as ordinary case disposal mechanisms, thus prompting the adoption of simplified methods such as plea bargaining. Other potentially relevant factors, such as material resources, crime levels, and the prior formalization of penal orders or jury trials, were instead not significant.

Regarding the use in practice, the analysis considered plea-bargaining rates in 52 jurisdictions in 2019. This year was chosen in order to avoid potential confounding effects determined by Covid-19 restrictions, while limited data availability prevented to consider multiple years. The results of simple OLS regressions confirmed the relevance of legal traditions also in this regard. Both the Socialist and Spanish legal origins were significantly correlated with higher plea-bargaining rates, when compared to common law jurisdictions, and even after controlling for the regulation level of plea bargaining. This result is particularly interesting for two reasons. First, it provides evidence against the dominant opinion that considers the inquisitorial tradition as hostile to a significant use of plea bargaining, in contrast to the adversarial tradition. Second, it documents the importance of legal traditions in guiding the choices of legal actors, even in presence of similar regulatory frameworks. Neither the size of Muslim populations nor being a democracy played a significant role, in contrast with the analysis about the formalization of plea bargaining. The use of jury trials was marginally associated with higher plea-bargaining rates. The reason is that jury trials are costlier for the state and carry more uncertainties for both parties, thus further incentivizing the conclusion of plea agreements. A marginally significant role was also displayed by regulation levels, as resulting from the cluster analysis described in Chapter 2. As expected in theory, a looser regulation was associated with higher plea-bargaining rates, while the opposite was true for stricter regulations. The presence of penal orders as potential functional equivalents was instead not significant. Higher income levels, employed as proxy for the material resources of a criminal justice system, correlated with higher plea-bargaining rates up to a certain point, after which the relationship became negative. The proposed explanation is that poorer jurisdictions cannot credibly threaten defendants with a probable and swift conviction at trial, so that defendants are not incentivized to accept discounted but certain convictions through plea bargaining. As the system's resources increase, the threat of conviction at trial becomes more credible, thus increasing the demand for plea

agreements. However, plea bargaining is characterized by lower accuracy in adjudication compared to ordinary trials. Consequently, its use is limited in the wealthiest jurisdictions, which can afford to adjudicate a larger number of cases at trial. The existence of a potential learning effect was not supported by the analysis, since older plea-bargaining procedures were not used to a significantly larger extent. Finally, crime rates did not significantly correlate with plea-bargaining rates.

Chapters 4 and 5 both answered research question 4), regarding what factors drive the use in practice of administratization procedures in individual jurisdictions. In doing so, both chapters considered Italy as a case study.

Chapter 4 considered the impact of a jurisdiction-specific factor, namely the unique regulation of the Italian criminal statute of limitation, on the use of both plea bargaining and penal orders. According to the economic models of plea bargaining, longer trials impose higher costs on both parties, thus incentivizing quicker disposals through plea agreements. Penal orders are not expressly considered by economic models so far, but they represent an additional method for avoiding costly trials. However, over the last twenty years the average duration of criminal trials in Italy has increased, while the use of both plea bargaining and penal orders has decreased. Such a puzzling situation can be explained when considering the incentives provided by the Italian criminal statute of limitations. According to its regulation, defendants must be acquitted if they are not convicted within a certain time since the alleged commission of the crime. This means that longer trials are associated with higher chances of acquittal for criminal defendants in Italy, regardless of the evidence gathered against them. As a result, Italian defendants might prefer longer trials to quick and discounted convictions through plea bargaining or penal orders. To elicit the causal effect of trial duration on the use of administratization procedures, Chapter 4 relied on instrumental variable analyses on a panel of 140 Italian first-instance judicial districts over the period 2005-2021. As a first instrument, I used the number of judges per inhabitants in first-instance judicial districts. A higher density of judges should enable quicker case disposals and lower trial duration, thus satisfying the so-called relevance condition of instrumental variables. At the same time, the number of judges should not directly influence the use of administratization procedures, thus satisfying the so-called exclusion restriction. As a second instrument, I employed the average yearly temperature in first-instance judicial districts. The relevance condition should hold since, with warmer temperatures, judges might shorten the daily hearings or decide to set hearings further in the future, both because working with higher temperatures can induce fatigue earlier, and because nice weather increases the opportunity

costs of holding trial. At the same time, the exclusion restriction should hold, since the decision to conclude a plea agreement or to issue and oppose a penal order is likely independent from the weather of a particular day. Through both instruments I find that longer average trials result in a lower use of both plea bargaining and penal orders. The results carry a potential policy implication. The Italian criminal statute of limitation is conceived as a remedy to excessive trial duration. However, by lowering defendants' incentives towards the use of administratization procedures, it results in the necessity of holding more trials. Given scarce resources, this in turn causes average trial duration to increase. Consequently, the current regulation of the statute of limitations causes excessive trial duration, instead of being a remedy thereto.

Chapter 5 also considered the use of administratization procedures in Italy, but it analyzed the impact of a factor potentially relevant to all jurisdictions: the role of defense lawyer's incentives. The economic models of plea bargaining consider the procedure as a two-party contract, thus abstracting from the agency relationship between defendants and their lawyers. More recent literature has criticized this approach as oversimplistic, by highlighting the pivotal role played by lawyers' self interest in shaping the outcome of plea negotiations. Chapter 5 followed the latter strand of literature and it considered lawyerly services as credence goods, since lawyers know more than their clients about the type and quality of service needed and provided. When facing increased competition, lawyers might then exploit their informational advantage and induce their clients into purchasing services they do not actually need. This phenomenon, known as overtreatment or supply-induced demand, has been empirically verified in the case of civil litigation in Italy, since more lawsuits are brought to trial in districts characterized by a higher density of lawyers. In the context of criminal litigation, supply-induced demand would result in a lower use of administratization procedures, since lawyer's financial gains are higher at trial compared to using plea bargaining and penal orders. Similarly to Chapter 4, causality was elicited through instrumental variable analyses on a panel of 140 Italian first-instance judicial districts over the period 2008-2021. As a first instrument for the number of lawyers in a judicial district I used the distance between the district's capital and the closer university that offers a law degree, interacted with average GDP per capita in the same district. This instrument was inspired by the existing literature about supply-induced demand in civil litigation, and it should capture the affordability of a law degree in different judicial districts. In particular, in districts closer to law schools and in richer districts it should be more affordable to obtain a law degree, so that those districts should be characterized by a higher number of lawyers per inhabitants. As a second instrument, I used the proportion of graduates

from humanities high school in each judicial district, since this curriculum is traditionally associated to the subsequent pursuing of a law degree. Through both instruments I find that a higher density of lawyers results in lower use of both plea bargaining and penal orders. The results confirm the importance of lawyer's incentives for the use of administratization procedures in practice. This calls for a better understanding of the agency relationship between defendants and lawyers when analyzing the social welfare effects of plea bargaining, and possibly of penal orders. However, in light of the results of Chapter 4, it is hard to normatively evaluate lawyers' behavior in the Italian context since defendants themselves might prefer longer trials to administratization procedures. Additionally, the size of supply-induced demand for criminal trials might be greater in Italy, compared to jurisdictions with a different regulation of the criminal statute of limitations.

6.2. Scope for future research

A first avenue for future research consists in expanding the existing knowledge about the adoption, legal design, and use in practice of administratization procedures. Empirical data about the use of both plea bargaining and penal orders are hard to find, and their limited availability has so far prevented meaningful cross-country empirical analysis (Langer, 2021). Data availability issues also prevented the adoption of more sophisticated empirical designs in the present thesis and the performance of cross-country analyses specifically dedicated to penal orders.

Along similar lines, another possible direction for future research is the gathering of comparable knowledge about the adoption, legal design, and use in practice of other trial-avoiding mechanisms that do not result in criminal convictions. Similar research would provide a more complete picture about the functioning in practice of contemporary criminal justice systems. For example, the exceptional increase in the use of penal orders in the Netherlands over the period 2015-2022 (+72%) can be explained when considering the simultaneous decrease in the use of the procedure called *transactie*. Penal orders and *transactie* can be used in the same cases and they both enable case disposal without trial, but the latter procedure does not result in the imposition of criminal convictions. The increase in the use of penal orders is the result of changed prosecutorial policies, which aim to reduce the use of *transactie*, as a response to public opinion's demand for a tougher repression of crimes (Brants, 2018). However, a cross-country approach like the one adopted in this thesis seems not feasible when considering trial-avoiding mechanisms that do not result in criminal convictions. The reason is that a major role

is likely played by informal practices, e.g. in the case of unconditional dismissals by police (Langer, 2021), which are hard to grasp without an in-depth study of jurisdiction-specific experiences. In addition, it is likely impossible to gather, for a significant number of jurisdictions, accurate empirical data about this kind of procedures. Consequently, this further avenue of research would likely yield more significant results through a case-study approach.

This thesis was interested in exploring the relationship between certain factors and the adoption and use of administratization procedures. However, because of data availability issues, Chapter 3 could not employ empirical designs suitable for causal inference. A third path for future research could then be devoted at establishing whether the factors proven relevant by this thesis are indeed causally related to the adoption and use of administratization procedures. A similar approach requires better data availability in a cross-country setting, while it appears already feasible with reference to individual jurisdictions, as shown in Chapters 4 and 5. This avenue of future research might for example explain the exceptional decrease in administratization rates displayed by Moldova and Russia and the exceptional increase that interested Latvia, as highlighted in Chapter 2. In addition, it might build on the results of Chapters 4 and 5, by testing the impact of trial duration and lawyers' incentives on administratization rates in other jurisdictions.

A fourth avenue for future research entails the adoption of an opposite perspective compared to the present thesis. Namely, new studies could explore whether and to what extent a greater use of administratization procedures correlates, potentially in a causal way, with several outcomes. For example, it would be interesting to test whether a greater use of administratization procedures has a positive effect on deterrence, by increasing the probabilities of conviction (Becker, 1968), or whether it just results in net-widening, by enabling the prosecution of a larger number of evidentiary simple cases (Dušek, 2015). Future research could also test whether a greater use of plea bargaining reduces prosecutors' incentives to undertake thorough investigations (Franzoni, 1999) or whether it increases clearance rates through a better allocation of prosecutorial resources (Easterbrook, 1983; Dušek & Montag, 2016). Furthermore, similar research could assess the effects of administratization procedures on organizational features, such as the number of judges per inhabitants, the ratio of prosecutors to judges, or the size and partition of public expenditures in the criminal justice system. Finally, it could investigate the effect of higher administratization rates on crucial outcomes of criminal procedure, such as incarceration rates, average sentence severity, and trust in criminal law enforcement. The results of this fourth avenue of research would greatly contribute to the long-

lasting debate around the desirability of administratization procedures (Fine, 1987; Smith, 1987; Langer, 2021; Lundberg, 2024).

As a fifth direction of future research, this thesis calls for a critical evaluation of the guarantees currently accorded to criminal defendants, in light of the prevalence of administratization methods in practice. In fact, the use of both plea bargaining and penal orders shifts the focus of criminal proceedings from trial to the pretrial stage. This might produce serious consequences especially in adversarial systems, where most guarantees are designed in function of the courtroom debate, considered as the traditional focus of criminal proceedings (Brants and Fields, 2016). Guarantees designed for a system of trials risk to remain ineffective in a "system of pleas"[210]. Contrary to what argued in the "shadow of trial" literature (Bibas, 2004), the same guarantees are also unlikely to discipline plea negotiations, if trials are only used to adjudicate a marginal proportion of cases. Furthermore, if the current guarantees are deemed inadequate, additional consideration should address which guarantees to implement, and how to do so. The introduction of typical inquisitorial guarantees, such has prosecutorial disclosure duties, has been documented in adversarial systems in recent years (Ringnalda, 2014). However, the same literature has discussed how the introduction of similar guarantees might undermine the system's coherence and result in perverse effects. Furthermore, the comparative literature has documented the limited effectiveness of legal transplants in systems shaped by differing legal traditions, and thus not suited to properly accommodate certain rules (Damaška, 1997; Grande, 2016). Inquisitorial systems might be better equipped to protect defendants' rights despite the increasing use of administratization procedures. The reason is that the official investigation is traditionally considered the focus of criminal procedure in inquisitorial systems (Hodgson, 2015) while trials are little more than audits of previous activities (McEwan, 2011). However, the prevalence of administratization mechanisms documented in this thesis might still come as a surprise in certain jurisdictions. Consequently, further reflection about the appropriateness of existing guarantees might be needed within the inquisitorial tradition as well. This fifth avenue for future research, coupled with new empirical legal research, would also contribute to the debate about the desirability, and the optimal use in practice, of administratization procedures.

[210] Lafler v. Cooper, 566 U.S. 156, 170 (2012).

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Executive summary

The thesis investigates the worldwide administratization of criminal convictions, i.e. the imposition of criminal convictions through plea bargaining and penal orders.

Chapter 1 discusses motivation and goals, methodology, and relevance of the thesis. In addition, it defines both plea bargaining and penal orders. Through plea bargaining, defendants are convicted if they explicitly accept to waive their right to trial, in exchange for a reduced sentence or other benefits. Through penal orders, criminal convictions are imposed already during the investigation stage, based exclusively on the results of the investigation dossier. Defendants might consent to penal orders or request that their case be adjudicated at trial.

Chapter 2 describes the current adoption and regulation of administratization procedures worldwide. It also documents the incremental adoption and the dominant role alternatively played by penal orders and plea bargaining over the last 100 years. Additionally, it discusses how the influence of procedural traditions, the prestige of individual legal systems, and efficiency concerns promoted the adoption of administratization methods. Finally, it quantifies the use of administratization procedures worldwide.

Chapter 3 identifies factors influencing the adoption and use of plea bargaining worldwide. The robust results of cross-country regressions show that the adoption of plea bargaining significantly correlates with legal origins, the influence of Shariah, and democracy. The use of plea bargaining significantly correlates with material resources, legal traditions, and differing regulations of the procedure.

Chapter 4 and 5 explore potential factors driving the use of plea bargaining and penal orders in Italy. Chapter 4 considers the peculiar regulation of the Italian criminal statute of limitations. According to such regulation, defendants must be acquitted, regardless of the evidence collected against them, if trials last longer than a certain time threshold. As a result, defendants might prefer longer trials to a quick disposal of their case through plea bargaining and penal orders. In line with theory, instrumental variable analyses on a panel of 140 first-instance judicial districts over the period 2005-2021 show that average longer trials induce a lower use of administratization procedures.

Chapter 5 considers the role of defense lawyers' incentives in Italy. Economic models typically treat plea bargaining as a two-party contract, thus abstracting from the agency relationship

between defendants and their lawyers. More recent literature has criticized this approach, by highlighting the role of lawyers' private interests for the outcome of plea negotiations. The same reasoning can be extended to penal orders. In particular, lawyers might advise against the use of plea bargaining and penal orders, since ordinary trials yield higher financial returns for them. Such behavior should be more common when lawyers face increased market competition, proxied by a higher number of lawyers per inhabitants. In line with theory, instrumental variable analyses on a panel of 140 first-instance judicial districts over the period 2008-2021 show that a higher density of lawyers lowers the use of administratization procedures.

Chapter 6 summarizes and discusses the results of previous chapters. In addition, it indicates possible directions for future research.

Samenvatting

Deze dissertatie onderzoekt de wereldwijde administratie van strafrechtelijke veroordelingen, dat wil zeggen het opleggen van strafrechtelijke veroordelingen door middel van plea bargaining en strafbeschikkingen.

Hoofdstuk 1 bespreekt de motivatie en doelen, de methodologie en de relevantie van het proefschrift. Daarnaast worden plea bargaining en strafbeschikkingen gedefinieerd. Door middel van plea bargaining worden verdachten veroordeeld als ze expliciet accepteren om af te zien van hun recht op een proces, in ruil voor strafvermindering of andere voordelen. Bij strafbeschikkingen worden strafrechtelijke veroordelingen al in de onderzoeksfase opgelegd, uitsluitend op basis van de resultaten van het onderzoeksdossier. Verdachten kunnen instemmen met strafbeschikkingen of vragen dat hun zaak voor de rechter wordt gebracht.

Hoofdstuk 2 beschrijft de huidige invoering en regulering van administratieve procedures wereldwijd. Het documenteert ook de geleidelijke invoering en de dominante rol die strafbeschikkingen en plea bargaining de afgelopen 100 jaar hebben gespeeld. Daarnaast wordt besproken hoe de invloed van procedurele tradities, het prestige van individuele rechtssystemen en efficiëntie overwegingen de adoptie van administratieve methoden hebben bevorderd. Tot slot wordt het gebruik van administratieve procedures wereldwijd gekwantificeerd.

Hoofdstuk 3 identificeert factoren die van invloed zijn op de invoering en het gebruik van pleidooi onderhandelingen wereldwijd. De robuuste resultaten van cross-country regressies laten zien dat het gebruik van plea bargaining significant correleert met juridische oorsprong, de invloed van de sharia en democratie. Het gebruik van plea bargaining is significant gecorreleerd met materiële middelen, juridische tradities en verschillende regels voor de procedure.

Hoofdstuk 4 en 5 onderzoeken mogelijke factoren die het gebruik van plea bargaining en strafbeschikkingen in Italië stimuleren. Hoofdstuk 4 gaat in op de bijzondere regelgeving van de Italiaanse strafrechtelijke verjaring. Volgens deze regeling moeten verdachten worden vrijgesproken, ongeacht het bewijs dat tegen hen is verzameld, als processen langer duren dan een bepaalde tijdsdrempel. Als gevolg hiervan kunnen verdachten de voorkeur geven aan langere processen boven een snelle afdoening van hun zaak door middel van plea bargaining en strafbeschikkingen. In lijn met de theorie laten instrumentele variabele analyses op een panel

van 140 gerechtelijke arrondissementen in eerste aanleg over de periode 2005-2021 zien dat gemiddeld langere processen leiden tot een lager gebruik van administratieve procedures.

Hoofdstuk 5 gaat in op de rol van de prikkels voor advocaten in Italië. Economische modellen behandelen pleidooionderhandelingen meestal als een contract tussen twee partijen, en abstraheren dus van de agentschapsrelatie tussen verdachten en hun advocaten. Recentere literatuur heeft deze benadering bekritiseerd door de rol van privébelangen van advocaten voor het resultaat van pleidooi onderhandelingen te benadrukken. Dezelfde redenering kan worden uitgebreid naar strafbeschikkingen. In het bijzonder zouden advocaten het gebruik van plea bargaining en strafbeschikkingen kunnen afraden, omdat gewone processen voor hen een hoger financieel rendement opleveren. Dergelijk gedrag zou vaker moeten voorkomen wanneer advocaten te maken hebben met meer concurrentie op de markt, uitgedrukt in een hoger aantal advocaten per inwoner. In lijn met de theorie laten instrumentele variabele analyses op een panel van 140 gerechtelijke arrondissementen in eerste aanleg over de periode 2008-2021 zien dat een hogere dichtheid van advocaten het gebruik van administratieve procedures verlaagt.

Hoofdstuk 6 vat de resultaten van voorgaande hoofdstukken samen en bespreekt deze. Daarnaast geeft het mogelijke richtingen aan voor toekomstig onderzoek.

Curriculum vitae

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Short bio	
Born in Pisa, Italy on 02/07/1995.	
Education	
University of Pisa. Master's degree in law (110/110 *cum laude*).	2014 - 2020
Work experience	
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Prizes and awards	
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Publications	
Paolini, G. (2024). The adverse effect of trial duration on the use of plea bargaining and penal orders in Italy. *European Journal of Law and Economics, 58*(3), 551–586. https://10.1007/s10657-024-09826-8	2024
Paolini, G., Kantorowicz-Reznichenko, E., & Voigt, S. (2025). Plea bargaining procedures worldwide: Drivers of introduction and use. *Journal of Empirical Legal Studies, 22*(1), 27-75. https://doi.org/10.1111/jels.12406	2025

ERASMUS UNIVERSITY ROTTERDAM

PHD PORTFOLIO

Gabriele Paolini

Description	Organizer	EC
Required		
Introduction to Law and Economics (Pomelli) (2020)	University of Bologna	3.00
Introductory statistics (Guerra) (2020)	University of Bologna	3.00
Experimental Economics (Casari) (2020)		2.00
EGSL - Communicate your PhD Research (2021)		3.00
Modeling Law (Parisi) (2021)		4.00
Behavioral Law and Economics and Enforcement Mechanisms (Vanin) (2021)	University of Bologna	2.00
Behavioral Game Theory (2021)		2.00
Introduction to European Competition Law (2021)	University of Bologna	2.00
Law and Economic Development (2021)		2.00
EDLE - EDLE EUR ESL Advanced Empirical Methods: Research Design (2021)		2.00
EGSL - Managing your PhD (2021)		3.00
EDLE - Empirical Legal Studies (2021)	University of Hamburg	2.00
EDLE - HAMBURG International Summer School (2021)	University of Hamburg	6.00
EGSL - Academic Writing in English (2021)		4.00
EGSL - Academic Integrity & Responsible Research (2022)		1.00
Optional		
EDLE - ILE Summer School (2022)	University of Hamburg	3.00
		------ +
Total EC		**44.00**