

Incentives to do justice:
A comparison of American and Dutch prosecutors

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Abstract

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1 Introduction

On 8 March 2002, Cees Borsboom was convicted by the Court of Appeal in The Hague, the Netherlands of manslaughter of the ten-year-old Nienke Kleiss in a park in Schiedam¹. Then, in August 2004, another man made a spontaneous confession to the police and demonstrated that he knew a lot about the details of the case. When it became clear that Borsboom was

¹This case became known as ‘De Schiedammer parkmoord.’

wrongfully convicted, he was soon released from prison. This miscarriage of justice attracted a large amount of national media attention and much criticism on both the police and the judiciary followed. The Public Prosecution Service was accused of being incompetent, biased and failing to be self-critical and self-reflective. More importantly, a thorough inquiry afterwards showed that the Public Prosecution Service had made many mistakes during its investigations. Despite the fact that a lot of DNA evidence was found at the scene of the crime, the state laboratory that processed this DNA evidence withheld it on directions of the prosecutors. During trial, the prosecutors hid the fact that the found DNA evidence did not match with Cees Borsboom. When the actual killer confessed the crime two years later, his DNA made a perfect match to the DNA that was found at the crime scene.

Unfortunately, this miscarriage of justice is not an exception. Not only in the Netherlands, but also in other countries innocents are being convicted for crimes they did not commit. There are numerous examples. In what has become known as the Duke Lacrosse case², three members of a men's lacrosse team in North Carolina, the United States, were accused of a racially motivated gang rape in the spring of 2006. As it turned out later, the prosecutor had hidden exculpatory DNA evidence from the court, which made the North Carolina State Bar decide to file ethic charges against him. His disbarment made him the first prosecutor in North Carolina history to lose his law license due to withholding of evidence. The three players were freed from blame.

Of course, looking at the facts, these two cases differ a lot. Moreover, since the Dutch and American legal systems differ largely, it makes it even harder to do a comparison. In both cases however prosecutors have hidden relevant information from the court that led to false outcomes. One should realize that these 'Type I'-errors exist in every legal system and can never be completely avoided. A good criminal justice system is a system that minimizes the risk of wrongful convictions and reprimands the ones who undermine the system.

With this paper, I want to contribute to the discussion on different legal systems and make a critical analysis to uncover both the benefits and drawbacks. I will make both a legal and an economic comparison of the legal systems in the Netherlands and the United States, hoping that this different perspective can contribute to a better understanding of these

²See Mosteller, R.P., '*Exculpatory evidence, ethics, and the road to disbarment of Mike Nifong: the critical importance of full open-file discovery.*' 15 George Mason Law Review, page 257 (2008).

systems. In my opinion, nuancing the criminal procedures in both civil law and common law countries can improve economic theory in future research.

The structure of this paper is as follows. First, I will discuss related literature on the process of decision making in legal systems. Then, the distinction between the legal systems will be made from a legal perspective. Subsequently follows the introduction of a game-theoretical model of a criminal trial created by professor Swank and a discussion on the results. Finally, this paper will be summarized and concluded.

2 Related literature

Before accurately setting out the differences between the legal criminal trial in the United States and the Netherlands, I will discuss related literature on more general decision making procedures. Certainly relevant research has been done by Dewatripont and Tirole (1999), providing a rationale for advocacy. Though their model of decision making can be applied to all forms of organizations, I will focus – of course – on the application to the judiciary. The researchers first consider the status quo, for which arguments can be found to change the situation. In a criminal trial, the status quo might be an average sentence imposed by a judge. So the status quo might be changed by advocating a higher or, in contrary, a lower sentence.

Now there are two ways of decision making: under a single-agent, nonpartisan system and under a two-agent, partisan system. In the former, one agent searches for evidence both opposing and supporting a decision at cost $2K$. In the latter, i.e. advocacy, two agents look for evidence at cost K that supports their own specific cause, in conflict with the other's cause. This advocacy leads to competition among advocates and generates valuable information about both sides of a case.

The first assumption Dewatripont and Tirole make is that in practice, prosecutors and lawyers often only receive benefits if the case is won, either in the form of monetary compensation or in the form of reputation and career concerns. This means that rewards for the collection of information is based on the final decision, but that the direct benefits of the decision are not internalized. A lawyer is indifferent about a case, until he is hired by

the defendant. This also means that, when two conflicting pieces of evidence are found, the reward is the same as when no evidence has been found. Finding one argument supporting the case and one argument opposing the case is equivalent to finding no new arguments at all, from the perspective of the decision maker.

In the case of nonmanipulable information and monetary incentives, Dewatripont and Tirole show that an advocacy system is optimal. The problem with a nonpartisan system is namely that an agent is not incentivized to exert effort on both causes. When the agent finds information supporting a cause, he is not incentivized to exert effort to the opposing cause, since he might end up with contradicting information and, ultimately, in the status quo. That leaves him with no reward. Concerning career concerns however, the nonpartisan system dominates.

Thereafter, the research focuses on the manipulation of information. In the case of manipulable information, the risk (and cost) of advocacy is that advocates receive incentives to withhold or forge evidence. When both parties release an equal amount of arguments for murder and manslaughter³, the judge will choose the status quo. However, in a nonpartisan system, the single agent also has an incentive to manipulate information. For him too, presenting two conflicting pieces of evidence will remain the status quo and leave him with no reward. This makes him an activist, with a possible error in the decision making taking the form of extremism. In the case of extremism, the decision maker rejects the status quo too often. Also, the status quo is less likely to prevail than under advocacy. A single activist is, however, optimal if the relative cost of inertia is high enough.

With advocacy, both extremism and inertia are generated. With inertia, the decision maker accepts the status quo too often. Two cases can be distinguished in this system: prosecution, where each agent will only disclose conflicting pieces of evidence, and advocacy, where each agent will disclose only favorable information. With prosecution, the announcement that the agent has learned nothing may also reflect that he is in fact hiding information. It depends on incentives whether agents are advocates or prosecutors.

Unfortunately, the organization is not always able to verify whether the advocates comply with the rules. But if it was possible to detect and punish withholding information, a two-

³Manslaughter is, from a legal point of view at least, less culpable than murder.

agent system is optimal. The prohibition to conceal information can hurt the organization in a nonpartisan system.

In conclusion, it follows from the model of Dewatripont and Tirole that advocacy has one main benefit. The rewards that advocates receive track their performance, while the incentives of an agent in a nonpartisans system is afflicted when he has to serve both causes at the same time.

Other research on advocacy and a nonpartisan system has been done by Shin (1998). His research shows that the a two-agent system is optimal, because within this system one is able to allocate the burden of proof in an effective manner, which removes the maximal informational content from apparently unconvincing contests. In the end, two observations about the truth are collected instead of one.

Throughout this paper I will refer to this and more related literature, but in the next section I will first explain the legal systems in the United States and the Netherlands.

3 A comparison of the legal systems

3.1 Adversarial-inquisitorial distinction

When comparing criminal trials and criminal procedure worldwide, a lot of differences can be found, depending on the national legal system in which a case is brought to trial. In Western legal systems, the distinction between common law on the one hand and civil law on the other hand is well-known. Most states of continental Europe have a civil law system, while the United States, the United Kingdom and others have implemented the common law system.

More theoretical is the legal distinction between an adversarial⁴ and an inquisitorial system. The United Kingdom and its former colonies use the adversarial system and mostly all other countries, including continental Europe, with the exception of Spain and Italy, have inquisitorial systems. Even though the distinction between an adversarial and inquisitorial system is theoretically unrelated to the distinction between a civil legal and common law

⁴Cognates are 'prosecutorial' and 'accusatorial'. I will use the term 'adversarial' throughtout this paper.

system, the United States, with a common law system, has a more adversarial system, while the Netherlands, with a civil law system, use the inquisitorial system (Koppen, 2003). These two legal systems are merely theoretical models, meaning it is not an accurate description of the actual criminal procedures worldwide. Neither the inquisitorial nor the adversarial model can be found somewhere in its purest form. National legal systems however can show typical characteristics of one of the two models. In reality, one can often find a mix of both legal systems. The Dutch system is one of the most inquisitorial ones on the European continent (Koppen, 2007).

In the adversarial system, legal proceedings can be seen as a contest between two parties: the prosecutor on the one hand and the accused, or defendant, on the other hand. The latter is represented by its attorney. The legal battle between these equivalent rivals has an outcome in terms of 'loss' or 'win', so one party wins at the expense of the other. The confrontation between the prosecution and the defense takes place in front of judge⁵. Within this system, the judge has a neutral, impartial role to ensure due process and acts as a passive arbitrator. The judge's decision is based on evidence brought to him by both sides. Finally, the goal of this legal system is a fair trial.

Opposite to the adversarial system is the inquisitorial system, that has its origin in Roman law and is present in continental Europe. Originally in this system, the defendant is not considered as a party in the trial, but merely a subject of examination. Consequently this would mean he has no rights. Nowadays, all European states fully consider the suspect as a party in a criminal trial and are incorporating more adversarial characteristics. This is partly under the influence of the European Court of Human Rights (ECtHR) in Strasbourg⁶. Moreover, Article 6 of the European Convention of Human Rights concerning the right to a fair trial aims at ensuring due process for suspects in criminal trials. Despite the neutral

⁵For simplicity, jury trials are not discussed in this paper. In the United States, every person accused of a crime punishable by incarceration for more than six months has the right to a trial by jury. The jury system however, though often linked to common law, is not essential to an adversarial legal system. European countries with a civil law system, for example Belgium and Norway, also use jury trials in certain cases. Other examples are Russia and Spain (Thaman, S.C., '*Europe's New Jury Systems: The Cases of Spain and Russia*', Law and Contemporary Problems Vol. 62, No. 2, The Common Law Jury, pp. 233-259, 1999.)

⁶Harding, C., Fennell, P., Jörg, N. & Swart, B., '*Criminal Justice in Europe: A Comparative Study*', Oxford, Clarendon (1995).

phrasing of this article with respect to the different legal systems, the ECtHR seems to interpret the article in a rather adversarial manner⁷.

More relevant characteristics of the inquisitorial system that still exist include the role of the prosecutor and the judge. The judge is a professional and has an active, fact-finding role. He is the one who questions the experts and witnesses, so heavy cross-examinations by attorneys, as we see in American TV shows, do not take place in the Netherlands. His final decision is based on his own conducted investigations during the trial. The prosecutor is a magistrate and head of the police investigations. For some decisions during the investigations however, like house searches, he will need a warrant from a judge. This is the same as in the United States. After the investigations, the prosecutor should independently come to a judgment on the merits of the case and decide to prosecute or not. Since he is a representative of the society, he is also representing the interests of the defendant. This places the prosecutor in an impartial position, weighing all the interests involved in a case. This also means that the prosecutor decides which witnesses and experts need to be questioned during the trial – he even decides on which witnesses the defendant may call in trial⁸. On the contrary, the defendant does not have a say in which witnesses the prosecutor may call in trial. In the United States, both parties hand in a list to the court with their desired witnesses and experts and the judge decides on the list. In both systems, the witnesses need to be relevant for the case⁹. Finally, the goal of an inquisitorial trial is to seek the truth, unlike the adversarial trial. So even though eventually both systems are expected to serve justice, they differ in many ways.

⁷Crombag, H. F. M., Van Koppen, P. J., & Wagenaar, W. A., *'Dubieuze zaken: De psychologie van strafrechtelijk bewijs'*, 5th edition. Amsterdam, Olympus (2008). (Dutch)

⁸The defendant's attorney needs to write a letter to the prosecutor, article 263(3) of the Dutch Criminal Procedure Code.

⁹For the United States, see article VI of the Federal Rules of Evidence: "*A witness may not testify unless evidence is introduced sufficient to support that the witness has personal knowledge of the matter.*" For the Netherlands, see article 264 of the Dutch Criminal Procedure Code: "*The prosecutor may refuse to call a witness if he finds that it is reasonable to assume that this does not affect the defendant to conduct his defense.*"

3.2 Plea bargaining

Inherent to the adversarial model is the concept of plea bargaining. It is one of the major differences between a criminal trial in a common law system and a criminal trial under civil law and can be described as a negotiation between the prosecuting party and the defendant to plead guilty in exchange for, usually, a lesser charge or a lower sentence. A judge does not participate in the negotiations. Pleading guilty means that a trial concerning the question of guilt is omitted and that the defendant is sentenced immediately. For both parties, plea bargaining has advantages. The prosecutor does not have the obligation anymore to prove the defendant's guilt and this leaves him with more time for other high-priority cases. Also, prosecutors are evaluated by their conviction rate and since a plea bargain results in a conviction, this is beneficial for the prosecutor's evaluation. The defendant on the other side, benefits from a lower sentence than he would have been given after a full trial where a judge might find him guilty.

However, defendants can always choose to decline a plea bargain, for example if they believe that the chance for acquittal is higher than the risk of conviction. Furthermore, when the defendant makes a guilty plea, thus confessing the crime, it is up to the prosecution to prove that due process procedures have been followed. This means that the plea was done "*voluntarily, knowingly and intelligently*"¹⁰. A judge will then authorize the plea agreement if the defendant makes a voluntary confession to the crime in court. However, the judge can also decide not to accept the guilty plea if the charges have no factual basis.

Civil law systems generally do not work with the concept of plea bargaining. A confession of guilt by the defendant is a normal piece of evidence and the case will still be presented to the court. Since inquisitorial systems give an active role to the judge, his final decision must be based on his own investigations and not on an agreement between the defendant and the prosecutor. Of course, for a prosecutor it is easier to prove his case if the defendant makes a confession. The only two concepts in the Netherlands that slightly resemble the American concept of plea bargaining are the '*transactie*'¹¹ and '*strafbeschikking*'¹². With these two concepts, the Public Prosecution Office can make an agreement with the suspect by setting

¹⁰ *Johnson v. Zerbst*, 304 U.S. 458 (1938)

¹¹ Article 74 of the Dutch Penal Code.

¹² Articles 257a-h of the Dutch Criminal Procedure Code.

a condition, for instance paying a fine or performing community service, to avoid further prosecution or incarceration. Both concepts do not involve a judge. However, the two can only be used for infractions¹³ and crimes punishable with incarceration for six years or less. Actual incarceration can only be imposed by a judge in a trial, so the prosecutor cannot imprison the suspect by an agreement. In the Netherlands ten thousands of such agreements are made each year, usually for minor offences like driving offences or shop lifting¹⁴. But also participation in a criminal organization, public violence and misrepresentation fall within the scope of a '*transactie*' and '*strafbeschikking*'.

The main difference between a *transactie* and a *strafbeschikking* is that the former prevents further prosecution, while the latter is an actual act of prosecution that establishes the guilt of the defendant. Furthermore, a defendant cannot refuse a *strafbeschikking*, while a *transaction* is appealable. These agreements are however not a normality like in the United States, where more than ninety percent of convictions result from a guilty plea¹⁵. The remaining percentage of convictions result from trials by jury or by judge. In 2006 for example, ninetyfour percent of the felonies that were convicted in state courts were done by guilty pleas, four percent by a jury and two percent by a judge¹⁶.

3.3 Exculpatory evidence

Prosecutors, in their role as representative of the state, have powers that the defendant's lawyer does not own. He can decide whom to prosecute and what to charge. Also, prosecutors have the benefit of a police force that investigates their case and helps gathering evidence. This puts the defendant and its attorney at a disadvantage in the trial. To compensate for this, both in the United States and the Netherlands rules have been implemented, obliging prosecutors to disclose exculpatory evidence. The defense lawyer has no obligation to provide the prosecutor with inculpatory evidence¹⁷.

¹³In Dutch: *overtredingen*.

¹⁴In 2009 for example, approximately 65,000 agreements were made. Source: Centraal Bureau voor de Statistiek, Den Haag/Heerlen, 26 June 2011.

¹⁵See Ross, J.E., '*The entrenched position of plea bargaining in United States legal practice*', The American Journal of Comparative Law Vol. 54, 717-732, 2006.

¹⁶Bureau of Justice Statistics, December 2009, NCJ 226846.

¹⁷McMunigal, K.C., '*Are prosecutorial ethics standards different?*', 68 Fordham Law Review 1553 (2000).

For the United States, there are two important rules concerning exculpatory evidence. The first rule is set out by the American Bar Association, a national bar association of lawyers that, amongst others, formulates model ethical codes related to the legal profession. States have adopted various versions of the American Bar Association's proposed standards. These ethical obligations of the prosecutor try to ensure due process and minimize inequality between prosecution and defense. Concerning exculpatory evidence, Model Rule 3.8 provides that:

(...) the prosecutor in a criminal case shall: (d) make timely disclosure to the defense of all evidence or information known to the prosecutor that tends to negate the guilt of the accused.

This means that prosecutors are required to disclose evidence favorable to the defense.

The second rule was formulated by case law, more specifically in the Brady case¹⁸. In short, the Brady rule is as follows: a criminal defendant has a constitutional right to disclosure of exculpatory evidence that is material to guilt or punishment. The scope of the Brady rule is, however, narrow.

Despite these two rules, there are barely consequences for withholding such evidence in the American criminal justice system. Critics have argued that Rule 3.8(d) is not very effective in serving its purpose. The ethical rule is rarely enforced and prosecutors are rarely disciplined for violations¹⁹. There are few cases in which prosecutorial misconduct was found and in these cases, the punishment appeared to be weak. Violations of these rules are even believed to be quite common²⁰. Furthermore, the United States Supreme Court has given prosecutors absolute immunity from civil liability if they fail to disclose exculpatory evidence. When there is no serious risk of repercussion for prosecutors, they have no personal incentive to disclose such evidence to the defendant. It might even give an advantage to withhold it. The worst thing that could happen if the prosecutor gets caught is that the conviction is overturned on appeal and that the defendant will be granted a new trial. Thus, a prosecutor

¹⁸*Brady v. Maryland*, 373 U.S. 83, 86 (1963).

¹⁹Meares, T.L., 'Rewards For Good Behavior: Influencing Prosecutorial Discretion and Conduct with Financial Incentives', 64 *Fordham Law Review* 851, 907-10 (1995).

²⁰Rosen, R.A., 'Disciplinary Sanctions against Prosecutors for Brady Violations: A Paper Tiger', 65 *N.C. Law Review* 693, 695 (1987).

might withhold evidence if he believes that the defendant is guilty and if he believes that justice will not be served, since the defendant might go free.

For the Netherlands, with a civil law tradition, the rules concerning evidence are settled in the Criminal Procedure Code. With every Dutch criminal case, a 'dossier', or case file is created, meaning a file with all the relevant documents for the prosecution. This can include expert reports, interrogation reports and DNA evidence. The Code remains silent about what should be exactly in this 'dossier' and who compiles it. However, the Dutch Supreme Court stated in a case that a judge is always competent – whether or not requested by the defense – to order the addition of other documents to the '*dossier*'²¹. Furthermore, article 359a of the Code makes clear that if there was an irreparable failure during the investigations to meet the procedural requirements, the court can determine that the sentence will be reduced, that evidence will be excluded in the case or that the prosecutor is inadmissible. The last sanction for such a failure is the most severe one, as it means that the court will not give a substantive judgements on the case. The possible sanction of inadmissibility serves as an incentive for the prosecutor to comply with the rules.

Though exact numbers do not exist, case law makes clear that the Dutch courts are very reticent in declaring the Public Prosecution Office inadmissible. In the Zwolsman case²², the Supreme Court described that inadmissibility can only follow if serious breaches of the principles of due process have been committed, thereby intentionally or with gross disregard depriving the defendant's right to a fair trial. Judges often prefer to sanction failures with lower sentences or the exclusion of evidence.

Also, as a member of the Council of Europe, the Dutch legal system is under the influence of the ECtHR and its ECHR. This court considered that:

*"it is a requirement of fairness under paragraph 1 of Article 6 (...) that the prosecution authorities disclose to the defence all material evidence for or against the accused and that the failure to do so in the present case gave rise to a defect in the trial proceedings."*²³

Interesting is the episode of 31 January 2010 of the Dutch television documentary program

²¹Dev-Sol case, HR 7 May 1996, NJ 1996, 687.

²²HR 19 December 1995, NJ 1996, 249.

²³*Edwards vs United Kingdom*, ECtHR 16 December 1992, Serie A 247-B, par. 36.

ZEMBLA²⁴, that shows the results of an in-depth research on criminal cases in the last ten years, where judges expressed their concerns about the work method of the Public Prosecution Office. In this episode, judges explain how in dozen trials prosecutors have broken the law, deliberately withheld evidence and even falsified evidence. Moreover, it appears that the prosecutors involved have been able to continue their careers. Nevertheless the Scientific Bureau of the Dutch Public Prosecution Office concluded from own research that ZEMBLA had incorrectly blamed prosecutors of deliberately withholding and falsifying evidence²⁵ and filed a complaint against ZEMBLA with the Council of Journalism. The Council concluded that the episode was indeed incomplete and one-sided. Even though the episode might have been inaccurate, much has been written in the Dutch press in the recent years about procedural errors by the prosecutors during their investigations.

In my opinion, then, a grey area in both American and Dutch criminal law can be found where sometimes biased prosecutors do not always receive the right incentives in their search for information and evidence.

3.4 Criticism

Both systems have been firmly defended for its strengths as well have been criticized for its weaknesses. The image of the adversarial system as a courtroom like a battleground, with only winners and losers, has been evident in notorious cases like the trial of the former professional football player O.J. Simpson in 1995. Moreover, some opine that the great availability of police force and other resources leads to inequality between the prosecution and the defense in a criminal trial²⁶. When the defendant does not have enough resources to hire an excellent attorney, he will be tempted to take the easiest and safest way out by pleading guilty. This concept of plea bargaining has resulted in a practice where many

²⁴*Officiëren van Justitie in de fout*, ZEMBLA, 31 January 2010, Vara, <http://player.omroep.nl/?afID=10593143> (Dutch). (Retrieved 15 June 2011.)

²⁵Letter of the Board of Prosecutors to the Minister of Justice, 11 May 2010, reference PaG/BJZ/32305, http://www.om.nl/publish/pages/120785/aanbiedingsbrief_college.pdf. (Retrieved 22 June 2011).

²⁶Kurcias, L.M., ‘*Prosecutor’s duty to disclosure exculpatory evidence*’, Fordham Law Review Vol. 69 (2000).

felony cases in the United States are handled without a trial and it is questionable whether these guilty pleas are all done voluntarily. In the inquisitorial system, the prosecutor still needs to present a full case in court when the suspect confesses the crime. Proponents of the inquisitorial system also argue that active judges, in contrast to passive judges in the adversarial system, compensate for deficiencies at the defendant's side. Lastly, it has been argued that under the adversarial system, prosecutors might have a personal incentive to win convictions, since most district attorneys – the government official who represents the government in the prosecution of criminal offenses – are being elected or appointed.

Defenders of plea bargaining argue that it increases efficiency in the judiciary and that more and more civil law countries are integrating characteristics of this American concept to lower the burden of the courts' workload²⁷. Another positive aspect of an adversarial trial is that parties have more control over the presentation of the facts that are relevant to them, while in an inquisitorial system it is the court that controls the presentation of facts. Proponents of the adversary system argue that the truth is most likely to emerge if all sides of a story have been able to be shared. Also, judges in Europe are not just passively making a decision, but have to find the facts, gather the evidence, do the interrogations and make the decision. These roles might lead to internal conflicts and prejudged decisions. Finally, in an inquisitorial trial the court does not pay as much attention to individual rights and evidence rules than adversarial courts as the search for the truth ultimately prevails.

4 The model

4.1 Description

Now that the legal comparison of the criminal trials in the Netherlands and the United States has been made, the next step is the introduction of the model. According to Posner (1999), an economic approach can be used as a criterion for evaluating the law of evidence in a criminal trial, using Bayes' theorem for rational decision making under uncertainty. This

²⁷Wiegand, W., 'Reception of the American law in Europe', 39, American Journal of Comparative Law, pp. 229-249 (1991).

section will use economic theory and Bayes' theorem to differentiate the adversarial and inquisitorial system. The following model has been written by Swank (2011).

Within the model, we assume that a person – the defendant – has committed an illegal act. Whether the defendant committed the act is formulated by $x = 0$ (innocent) or $x = 1$ (guilty). So in our case, $x = 1$. The prior probability that the suspect is guilty is denoted by $Pr(x = 1) = \rho$. Also, the external circumstances play a role in this model, denoted by the random term μ , but only if the defendant committed the illegal act. The term μ is uniformly distributed on $[l, h]$ and $l \geq 0$. The external circumstances can be both aggravating and mitigating. An example of the former can be prior felony convictions of the defendant, while an example of the latter can be the fact the defendant was under the influence of extreme mental disorder while committing the act. These factors are only relevant if the defendant is found to be guilty. Thus if, for example, the defendant was at a young age during the act, μ is low, while μ is high if the defendant has used violent criminal activity at the time.

The sentence s , determined by the court, depends on μ , where $s = \mu$ is optimal. The court's final decision depends on several subdecisions. First, the court makes up his mind whether the suspect is guilty or not, $g \in \{0, 1\}$. If $g = 0$ the court finds that the suspect is not guilty and if $g = 1$ the suspect is found guilty. The court will choose $g = 1$ if it learns that $x = 1$. Next, the court decides on the sentence. When the suspect is found innocent, $s = 0$. However if $g = 1$, the court chooses s according to $s = E(\mu|I_c)$, where I_c is the information the court possesses.

The other agents in this model can be denoted by $i \in \{D, P\}$, meaning respectively the defendant's attorney (D) and the prosecutor (P). The aim of agent D is to prove that for his client, the defendant, it holds that $g = 0$. If the court nevertheless chooses $g = 1$, agent D will try to obtain the lowest sentence possible for his client. Agent D 's payoff function is $U_D(g, s) = -\lambda_D g - s$. The costs attached by D to $g = 1$ are $\lambda_D > 0$. The aim of the other agent P , of course, is to prove to the court that the defendant is guilty ($g = 1$). P 's preferences are summarized by the payoff function $U_P(g, s) = \lambda_P g + s$, where $\lambda_P > 0$ are the benefits of P from $g = 1$. Clearly, this is the opposite of agent D 's payoff function.

Information in this model is asymmetric. Only the defendant and his attorney D know

the value of x and μ . At the beginning, agent D can give a message to the court that $x_D = 0$ or $x_D = 1$. When D decides to plead guilty, thus $x_D = 1$, the court will always choose $g = 1$. Furthermore, prosecutor P has the burden of proof and the defendant is innocent until proven guilty. When the defendant claims to be innocent, agent P must proof that the opposite is true.

What follows is the information collection stage. Since time is limited, both agents have to choose whether to investigate x or investigate μ . Agent D attempts to find hard evidence about μ . Hard evidence means that the found evidence will convince the court. The probability that D finds hard evidence about μ equals π_D^μ and the probability that he finds no evidence is $1 - \pi_D^\mu$. Agent P on the other hand, searches for evidence either on x or μ . If $x_D = 0$, then P will search for evidence on the crime, x . The probability that he finds hard evidence on x is π_P^x and the probability that he finds none is $1 - \pi_P^x$. Also, if P proves that $x = 1$, then she will finds hard evidence on μ with probability $\pi_P^{x;\mu}$. But if the defendant admits the crime and $x_D = 1$, then P will search for evidence on the circumstances, μ . With probability $\pi_P^\mu > \pi_P^{x;\mu}$, he finds evidence about the circumstances μ and with probability $1 - \pi_P^{x;\mu}$, he finds no evidence.

What follows is the communication stage of the game, in which both agents send a message to the court. There are two versions of the model: (1) both agents are allowed to withhold evidence from the court, and (2) only the defendant's attorney is allowed to conceal information. With the first version, the message both parties send to the court is denoted by $m_i \in \{x, \mu, \emptyset\}$. If $m_i = x$, the court receives hard information that the suspect is either innocent or guilty. If $m_i = \mu$, the court learns the circumstances of the act and finally, if $m_i = \emptyset$, the court learns that i has either hidden information or did not learn anything.

For version (2) of the model, it is different. Optimally, at least from a legal point of view, prosecutors do not withhold exculpatory evidence from the defendant's attorney and the court. When prosecutors are obliged to reveal all their gathered information and present it to the court, P no longer has the option to hide evidence²⁸. In both versions, agent D can decide to conceal information. So for P , he is still able to give the message $m_P \in \{x, \mu, \emptyset\}$ to the court, but if $m_P = \emptyset$ the court learns that agent P really did not find evidence.

²⁸The option to lie to the court about evidence is not an option in this version of the communication stage.

Finally, in both versions, the courts makes a decision whether the defendant is guilty and what his sentence will be, based on the circumstances.

4.2 Results

To start off with the equilibria in the version where both agents are allowed to hide evidence, we denote a few things. Since the defendant committed the act ($x = 1$), his attorney D will only admit that his client committed the act if μ is sufficiently small ($\mu < \hat{\mu}$). We assume that agent D admits that his client committed the illegal act, hence $x_D = 1$. Now both agents will collect information about μ , so $q_D = q_P = \mu$ and both agents know that $l \leq \mu \leq \mu_x$. This also implies that if $x_D = 0$ and P finds hard evidence that $x = 1$, $\mu_x \leq \mu \leq h$. Agent D will only reveal that his client committed the act if the circumstances are mitigating, because then the court will choose a lower sentence. On the other hand, P will only reveal information on μ if the term has a relatively high value, $\mu > \hat{\mu}$. This implies that if P has found the value of μ , only one of the agents will reveal the evidence and then $s = \mu$. If none of them reveal information, then $s = E(\mu | l \leq \mu \leq \mu_x, m_P = m_D = \emptyset)$.

In equilibrium, it follows that $\hat{\mu} = \hat{\mu}_P = \hat{\mu}_D$. At $\mu = \hat{\mu}$, each agent is indifferent between revealing hard evidence on μ and withholding hard evidencen on μ . For D , this means

$$-\lambda_D - E(\mu | m_D = m_P = \emptyset) = -\lambda_D - \hat{\mu}$$

and thus,

$$\begin{aligned} \hat{\mu} &= \frac{\pi_\mu^P (1 - \pi_\mu^D) \frac{1}{2} \hat{\mu} + \pi_\mu^D (1 - \pi_\mu^P) \frac{1}{2} (\hat{\mu} + \mu_x) + (1 - \pi_\mu^D)(1 - \pi_\mu^P) \frac{1}{2} \mu_x}{1 - \pi_\mu^P \pi_\mu^D} \\ &= \frac{(1 - \pi_\mu^D)l + (1 - \pi_\mu^P)\mu_x}{2 - \pi_\mu^P - \pi_\mu^D} \end{aligned} \quad (1)$$

If both agents give the message $m_i = \emptyset$, the court will impose a heavier sentence if $\pi_\mu^D > \pi_\mu^P$. When D has a higher possibility of finding hard evidence on the circumstances, the court will assume that D , even though he claims that he has not been able to find evidence, he is in fact hiding information on a high value of μ . This gives a stronger incentive to D to reveal information, as he knows that the court will be questioning his message $m_D = \emptyset$. Reversely, if $\pi_\mu^P > \pi_\mu^D$, the court decide to give the defendant a lower sentence, because

it believes that P is hiding information on a low value of μ . Then also, P has a stronger incentive to reveal information. The last possibility, if $\pi_\mu^P = \pi_\mu^D$, means that $\hat{\mu} = \frac{1}{2}(l + \mu_x)$ and the court will choose a neutral sentence.

The previous subsection also discussed another version of the communication stage. When we look at the version where P is obliged to reveal all his evidence, the equilibrium changes. Since agent P is no longer allowed to hide information from the court, it follows that he can no longer implement a strategy. For agent D , then, this means

$$-\lambda - E(\mu | m_D = \emptyset) = -\lambda_D - \hat{\mu}$$

and so,

$$\begin{aligned} \hat{\mu} &= \pi_\mu^D \frac{1}{2}(\hat{\mu} + \mu_x) + (1 - \pi_\mu^D) \frac{1}{2}(\mu_x + l) \\ &= \frac{(1 - \pi_\mu^D) \frac{1}{2}l + \frac{1}{2}\mu_x}{(1 - \frac{1}{2}\pi_\mu^D)} \end{aligned} \quad (2)$$

In equation 2, a higher value of π_μ^D leads to a higher value of $\hat{\mu}$. Then if both agents give the message $m_i = \emptyset$, the court will impose a heavier sentence if π_μ^D is high. Again, the court knows that the defendant's attorney is able to hide evidence from the court. The message from P that $m_P = \emptyset$ will now mean that the prosecutor did not find anything. $m_D = \emptyset$ however, can still mean that agent D is hiding evidence from the court. If π_μ^D rises, it will give an incentive to D to reveal information to the court. More importantly, the sentence no longer depends on π_μ^P . For the prosecutor, this means that he can no longer implement a strategy. This can have consequences for the endeavors prosecutors make to collect evidence.

Another variant could be that the defendant's attorney D claims that his client is innocent ($x_D = 0$), but the prosecutor P however presents hard evidence that $x = 1$. Then, the court knows that $\mu \in [\mu_x, h]$. Following the same steps as when $x_D = 1$, the equilibrium of the communication strategies by both agents is now

$$\tilde{\mu} = \frac{(1 - \pi_\mu^D)\mu_x + (1 - \pi_\mu^P)h}{2 - \pi_\mu^P - \pi_\mu^D} \quad (3)$$

Here, too, if both agents give the message $m_i = \emptyset$ and $\pi_\mu^P = \pi_\mu^D$, this means that $\tilde{\mu} = \frac{1}{2}(\mu_x + h)$ and the court will choose a neutral sentence. A heavier sentence will be

imposed if $\pi_\mu^D > \pi_\mu^P$ and, reversely, a lower sentence when $\pi_\mu^P > \pi_\mu^D$. The last equation stand for the situation where P is not allowed to hide information from the court and $x_D = 0$, while P has shown that $x = 1$. The new equilibrium is

$$\tilde{\mu} = \frac{\frac{1}{2}\mu_x + (1 - \pi_\mu^D)\frac{1}{2}h}{(1 - \frac{1}{2}\pi_\mu^D)} \quad (4)$$

5 Discussion

In order to discuss the results of the model and to use them to complete the comparison of the Dutch and the American legal system, we must first determine whether the model by Swank is also applicable to the inquisitorial system in the Netherlands. As said before, the distinction between adversarial and inquisitorial systems is merely theoretical, since neither the inquisitorial nor the adversarial model can be found somewhere in its purest form. The United States obviously fits in the presented model. At least in this highly adversarial system, there are two parties – the prosecutor and the defendant’s attorney – searching for evidence to defend their cause, which they present to a passive judge. The prosecutor is responsible for the case from the investigative stage to trial.

For the Netherlands, it is more difficult to determine whether the national system fits in this model. In the discussed related literature, all authors make the link between an inquisitorial system and countries with a civil law tradition. Dewatripont and Tirole (1999) state that American judges act relatively passively and that, for example, they leave it to the prosecution and defendant’s attorney to choose their own expert witnesses. In civil law countries, the prosecutor’s first duty is to help justice, and thus judges. Here, judges have a lot of freedom to direct the debates by asking questions and also by being the ones who choose expert witnesses. Shin (1998) too talks about a more active role for judges in investigating the circumstances of the case in a civil law system. For him, the choice between an adversarial or inquisitorial procedure is about a procedure in which the opposing parties make their cases in front of a judge or in which a judge decides on his own conducted investigations. Posner (1999), then, says that the competitive character of the adversary process gives both parties greater incentives to search for hard evidence than under the inquisitorial system in which the judge is the principal or only searcher. Finally, Thibaut

and Walker (1975) made a list of objectives that legal procedure needs to serve and tried to decide empirically which system might be optimal. They concluded that the adversarial system is superior to the inquisitorial system, as the truth was better established in the former.

I, however, wish to nuance this view and tend to disagree with Dewatripont and Tirole, Shin, Posner and Thibaut and Walker that there is a strict nonpartisan system in a civil law country such as the Netherlands. For a start, it is true that judges play a more active role during the investigations and during the trial, but this does not mean that the prosecution's role is passive and depending on the judges. In fact, in the Netherlands, the prosecutor is leading the most important part of the investigations. In the last decades, the role of the judge during the police investigations has been decreased to primarily a monitoring role in the Netherlands. The initiative for certain investigations lies with the prosecutor, but sometimes he will need the permission from a judge. For example, both in the United States and the Netherlands, prosecutors need a judge's permission for a house search.

Besides, I wish to emphasize that in the Netherlands, the largest part of the case is prepared even before the case is presented to the judge in the court room. Witnesses are being interrogated by a judge during the investigations and a written report is added to the case file. During these interrogations, the defendant's attorney and the prosecutor are also allowed to ask questions. Additionally, witnesses may appear in the court room. Moreover, witnesses are requested by the prosecutor and the defendant's attorney, so this is also not the judge's decision. In the United States, witnesses are mostly interrogated by cross-examination within the court room. In practice, this means that the two advocates will rehearse with their witnesses what to say before appearing in the court room. In the American system, the trial in the court room is of greater importance than the prior investigations. For the Netherlands, the opposite is true.

So in my opinion, in the Netherlands, too, there are two agents investigating a case. It is curious to claim that in a Dutch criminal case, the defendant's attorney and the prosecutor wait for instructions from a judge and that they receive no incentives to defend their opposing causes. Of course, the American and the Dutch systems differ. But it is too short-sighted to make the link between an inquisitorial system and a civil law country such as the Netherlands, and then state that the Netherlands merely has a nonpartisan system where a judge makes

a decision based on his own investigations. In both systems, there are two agents with opposing interests. On that point, I believe, the American and Dutch system are quite alike.

Then what is the main difference between these systems, besides plea bargaining? I have discussed the role of agent P , the prosecutor, in both system and pointed out that the Dutch prosecutor has, indeed, a broader role than an American prosecutor. This means that, as Dewatripont and Tirole stated, a Dutch prosecutor must also represent the defendant's interests, since he is serving justice as a magistrate. Withholding exculpatory evidence is in that way undesirable. American prosecutors, on the other hand, receive greater incentives to win a case in the 'battle'. Not only are they being elected, unlike Dutch prosecutors, sometimes they even receive bonuses for high conviction rates²⁹.

The American culture that distrusts officials, thus also judges, is an important reason for the difference between adversarial and inquisitorial system, as Posner states. It has also resulted in most American judges' being elected rather than appointed, like Dutch judges, and in keeping judicial salaries below the opportunity costs. The Dutch system of compromising has led to a great trust in officials (Koppen, 2007). So what I am in fact arguing is that, even though in both system there are two agents with opposite interests, the Dutch inquisitorial system gives a greater obligation to the prosecutor to be impartial and to refrain from withholding exculpatory evidence. This does not mean that I believe in practice, Dutch prosecutors never withhold evidence.

In the model by Swank, I have made a distinction between a prosecutor that is obliged to present all his evidence to the court (equation 2 and 4) and a prosecutor that is able to implement a strategy by withholding evidence (equation 1 and 3). The model shows that, when both parties can withhold evidence, they can implement a strategy. When both agents P and D give a message to the court that they did not learn anything and the probability that P finds evidence on the circumstances is larger than D 's probability, the court will lower the sentence. This gives incentives to the prosecutor in an adversarial system to reveal the evidence, as a lower sentence means a lower payoff for him. This is true if the defendant has committed the act, whether his attorney gives the message that his client is guilty ($x = 1$)

²⁹*Colorado Prosecutor Offers Bonuses For High Conviction Rates*, The Crime Report, 24 March 2011, <http://www.thecrimereport.org/archive/2011-03-co-pros-bonus> (retrieved 3 June 2011)

or innocent ($x = 0$). However, when P is placed in a position that he is always obliged to reveal his evidence, he can no longer implement a strategy. Then, why would he still put the same efforts in his search for evidence? In the inquisitorial version of the model, P receives no reward for revealing all his evidence, as he might be worse off and receive a lower payoff. It is a lot harder to determine with this model what strategies Dutch prosecutors implement.

Literature also relates to the inequality of resources between the prosecutor and the defendant. With probabilities π_μ^D and π_μ^P , the agents find hard evidence on the circumstances. It is likely that the prosecutor, with its large amount of resources, has a greater probability of finding evidence in favor of his cause. One single person often has fewer resources (i.e. money to pay for a great attorney) than the prosecutor, who receives aid from policemen and public monetary support. Thus, when both parties in the adversarial system give a message to the court that they did not learn anything, it is likely that the court will impose a lower sentence, as $\pi_\mu^P > \pi_\mu^D$.

Does this last point refer to the burden of proof that is placed on the prosecutor? After all, one is innocent until proven guilty. Posner argues that from an economic point of view, the inequality of resources between the prosecutor and the defendant in the adversarial system is minimized by this heavier burden that is placed on the prosecutor in a criminal case. But Shin admits that the presumption of innocence in criminal trials should not be viewed in terms of the relative information of the prosecution and defense, but rather should be seen as the greater loss and costs resulting from convicting an innocent as compared to acquitting a guilty one. So he finds that his results have limited applicability to criminal cases. Even though Shin's research shows that the adversarial system is optimal, because of the ability to allocate the burden of proof in an effective manner, it is questionable if this also applies for criminal cases.

Finally, Shin treats the information collection stage as exogenous "in order to focus solely on incentives to disclose the collected evidence". In the model by Swank, too, the information collection process is exogenous. When including this stage, it might be that welfare effects of the adversarial system are lower. When prosecutors only benefit from finding evidence favorable to conviction, we might assume that less effort is put in the information collection stage. This is especially important if, as I mentioned, the defendant has fewer resources

to search for evidence favorable to acquittal. Then, it might be that the version where prosecution is not allowed to withhold evidence, is socially optimal. In this system, the prosecutor also receives an incentive to search for contradicting evidence.

Dewatripont and Tirole are right to say that if it was possible to detect and punish prosecutors who withhold information, an adversarial system is optimal and that the prohibition to conceal information can hurt the prosecution in an inquisitorial system, because it removes incentives for the prosecutor to search for more evidence that might contradict the already found evidence. But the costs of Type I-errors and others (e.g. convicting a guilty person with a sentences that is too high) are great and as I have pointed out earlier, prosecutors are rarely punished for withholding information.

6 Conclusion

In the introduction, I started off with two miscarriages of justice, that resulted from severe reprehensible behavior of prosecutors. Despite the fact that it is difficult to compare legal system worldwide, as national legal systems are influenced by historical, political, economical, cultural and social factors, I have tried to do so. The United States has a culture where officials are mistrusted and citizens have the fundamental civil right to a trial by 'a jury of his peers', as a safeguard against an overzealous prosecutor. In the Netherlands, with its compromising, consensus-seeking culture, great trust is placed on officials, such as judges and politicians.

The American criminal procedure can be seen as an adversarial system, where proceedings are a contest between the defendant's attorney and the prosecutor. They present their evidence to a passive judge, the arbitrator of the battle. The Dutch criminal procedure is inquisitorial, meaning that an active, fact-finding judge conducts the investigations and that the suspect is not able to defend its own case. However, the legal position of the defendant has drastically improved over time. Plea bargaining is one of the main differences between the American and Dutch system, as it means that approximately ninety percent of all cases are settled by an agreement between the prosecutor and the defendant, whom pleads guilty in exchange for a lower sentence. A judge will not look into the facts of the case, but merely verify whether the defendant pleaded guilty on a voluntary basis.

Regarding exculpatory evidence, of which withholding by prosecution is forbidden in both the United States and the Netherlands, I found that it is in practice quite difficult to detect these errors. Moreover, the punishment mechanism appears to be weak. Especially when prosecutors have strong incentives to end the case in a conviction, withholding exculpatory evidence can be fruitful. In the United States, these incentives are quite clear. Prosecutors are elected and evaluated by their conviction rates. In the Netherlands, these incentives are less clear. Though prosecutors have a more impartial role than in an American criminal case, examples such as the Schiedammer Park murder show that they, too, are incentivized to withhold evidence if they believe to know 'who dunnit'.

The model I introduced, which was written by Swank, shows how incentives for prosecutors in both systems work. When both parties are allowed to withhold evidence, they follow a strategy where they will only reveal evidence if certain criteria are being met. If the defendant's attorney reveals that his client committed the act, he will only withhold evidence on the circumstances of the act if this can prevent his client from receiving a high sentence. For the prosecutor, the opposite is true, since he aims at the highest sentence possible. However, when the court knows the possibilities of both parties finding evidence, it will adjust its final decision to these probabilities, indirectly giving an incentive to both parties to reveal the evidence nonetheless.

Another version is where only the defendant's attorney is allowed to withhold evidence. Then, the prosecutor has no strategy to follow. This may affect his incentives to search further for evidence, when he has already found evidence favorable to his cause. He risks finding contradicting evidence.

I made clear that I do not believe, unlike others, that civil law countries have a nonpartisan system. Clearly, the role of the judge, prosecutor and defendant's attorney are different. Still, however, there are two agents striving for their own cause. I do believe that the prosecutor in the Netherlands, being an impartial magistrate, has a greater obligation to disclose exculpatory evidence. Even though the model by Swank and other discussed models show that an adversarial trial may give greater incentives to prosecutors to find evidence and to implement a strategy, the external cost of a wrongful conviction are huge. Furthermore, the inequity of resources between the two parties can foster these miscarriages of justice. An inquisitorial system, in that sense, is stronger countering such errors.

Italy and Columbia are examples of countries that have tried to change their inquisitorial legal system into a more adversarial one, in order to improve efficiency by plea bargaining. Both countries mainly decided to implement adversarial characteristics because their justice system experienced overloaded courts³⁰. Does this trend toward the adversarial model mean that it is indeed optimal? As Winston Churchill once stated, "democracy is the worst form of government, except for all those other forms that have been tried from time to time." In the end, in my opinion, the best legal system does not exist. Both economic and legal research can contribute to improve the understanding of how legal systems and the corresponding decision making processes work, but it is rather well impossible, as needless, to claim which country has the best type of legal system. Research on improvement is, however, always valuable.

³⁰For Italy, see Boari, N. and Fiorentini, G., '*An economic analysis of plea bargaining: the incentives of the parties in a mixed penal system*', 21 *International Review of Law and Economics*, pp. 213-231 (2001).

For Columbia, see Pahl, M.R., '*Wanted: Criminal Justice - Columbia's Adoption of a Prosecutorial System of Criminal Procedure*', *Fordham International Law Journal* Volume 16, Issue 3 (1992)

7 Bibliography

Dewatripont, M. and Tirole, J., '*Advocates*', Journal of Political Economy, University of Chicago Press, Vol. 107(1), pp 1-39 (February 1999).

Keulen, B.F. and Knigge, G., '*Ons strafrecht deel 2: Strafprocesrecht*', 12th edition, Kluwer, Deventer, 2010 (*Dutch*).

Koppen, P.J. van, '*Miscarriages of justice in inquisitorial and accusatorial legal systems*', Journal of the Institute of Justice and International Studies, 7 JIJIS (2007).

Koppen, P.J. van, and Penrod, S.D., '*Adversarial versus inquisitorial justice: psychological perspectives: psychological perspectives on criminal justice systems*', Springer (2003).

Posner, R.A., '*An Economic Approach to the Law of Evidence*', Stanford Law Review Vol. 51, No. 6, pp. 1477-1546 (July 1999).

Shin, H.S., '*Adversarial and Inquisitorial Procedures in Arbitration*', The RAND Journal of Economics, Vol. 29, No. 2, pp. 378-405 (Summer 1998).

Swank, O.H., '*Is transparency to no avail?*', Working paper (2011).

Thibaut, J.W., and Walker, L., '*Procedural justice: A psychological analysis*', Hillsdale, NJ: Erlbaum (1975).