Who Benefits from Customary Justice? Rent-seeking, Bribery and Criminality in Sub-Saharan Africa

O. Sterck and O. D'Aoust

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Who Benefits from Customary Justice? Rent-seeking, Bribery and Criminality in Sub-Saharan Africa

Olivier Sterck^a, Olivia D'Aoust^b

^aIRES, Université catholique de Louvain ^bECARES, Université libre de Bruxelles

Abstract

In many Sub-Saharan countries, customary and statutory judicial systems co-exist. Customary justice is exercised by clan leaders or local courts, and based on restorative principles. By contrast, statutory justice is mostly retributive and administered by magistrates' courts. As the jurisdiction of the customary and the statutory systems often overlap, victims can choose which judicial system to refer to, which may lead to contradictions between rules and inconsistencies in judgments. In this essay, we construct a model representing a dual judicial system. We show that the overlap of competence encourages rent-seeking and bribery, and yields to high rates of petty crimes and civil disputes. We recommend the subsidization of the statutory judicial system, as it efficiently improves deterrence and incapacitation in the dual judicial system while minimizing corruption of customary judges. We illustrate our theoretical predictions by discussing the functioning of the Ugandan dual judicial system.

Keywords: Custom, Justice, Criminal Behavior, Informal Institutions *JEL Classification:* K40, O17, D70

1. Introduction

Institutions play a large role in shaping development pathways (Acemoglu et al., 2005). Up to now, the economic literature on institutions mainly focused on the analysis of property rights as a key for investment and growth (Acemoglu et al., 2002; Gradstein, 2004; Nunn, 2007). Much less was said on how these property rights are, and should be enforced in developing countries. While many studies recognize that the "rule of law" and the historical origin of the countries' system of law have a strong impact on economic outcomes², the organization of the judiciary and the

¹E-mail addresses: olivier.sterck@uclouvain.be, olivia.daoust@ulb.ac.be. Olivier Sterck would like to thank the ARC project 09/14.018 on sustainability (French Speaking Community of Belgium) for its financial support. Olivia D'Aoust is grateful to the FNRS for its financial support. We thank Raouf Boucekkine and James Fenske for their helpful comments. Any opinions, findings, and conclusions or recommendations expressed in this paper are those of the authors.

²See e.g. Acemoglu et al. (2002) or Andersen and Aslaksen (2008) for an analysis of the impact of the "rule of law" on growth, Papaioannou (2009) for the link between the rule of law and international financial flows, Baltagi et al. (2009) on institution and trade openness, and La Porta et al. (2008) for a review on the impact of the historical origin of countries' system of law on economic outcomes.

administration of justice in developing countries is disregarded in most of the economic literature (Aldashev, 2009). The existing law and economics literature still needs to be adapted to the specific context of developing economies, especially for African countries where colonial institutions have been superimposed onto the already existing customary institutions during colonization (Acemoglu et al., 2002). In this paper, we attempt to fill this gap by proposing an economic analysis of a characteristic African judicial system, composed of both customary and magistrates' courts.

*Legal pluralism*³ is indeed widespread in Sub-Saharan Africa since, in many countries, the colonizers enforced the Western legal system on top of the existing customary system. While formal justice is based on retribution, deterrence and incapacitation, customary justice relies on traditional customs and encourages reconciliation and social harmony by applying a restorative approach to disputes. This is well illustrated in this reference to restorative justice, witnessed by Hone (1939) in Uganda.

"If my goat is stolen, I must find the wrongdoer and bring him to the chief; my remedy is then either to get the goat back or to be compensated in money or kind so that I am restored to my original position. " (Hone, 1939).

In such dual system, the jurisdiction of customary and magistrates' courts often overlap in number of matters, leading to contradictory judgments and judicial "shopping": litigants can refer their case to the institution most favorable to them.

Legal pluralism in Africa has been studied by scholars from different fields of study, but has been understudied by economists (see e.g. Mann and Roberts (1995) for a historical perspective, Kinnes et al. (2011) or Fenrich et al. (2011) for a legal viewpoint and Chirayath et al. (2006) for a social or anthropological analysis). Although they all agree that customary justice should in principle be cheaper and more accessible to the neediest, they also pinpoint that in reality, customary justice may show a different picture, in which rent-seeking, bribery and discrimination are widespread.

To our knowledge, Aldashev et al. (2012) provide the only economic analysis of legal pluralism in developing countries. Their paper concentrates on the question of the evolution of customary norms, and on the adherence of economic agents to these norms. They show that customary law may evolve if the customary authority adapts the custom in the direction of new statutory laws to avoid appeals from dissatisfied parties.

Our approach is complementary to the perspective of Aldashev et al. (2012). Rather than studying the evolution of customary norms, our paper contributes to the literature by focusing on the optimal decisions of criminals, victims and customary judges within a dual judicial system. More specifically, we first study the decisions of potential criminals whether or not to commit a crime. Second, we look at the decisions of victims to refer the matter to the customary authority,

³Legal pluralism is defined as "a situation in which two or more legal systems coexist in the same social field" (Merry, 1988).

to the magistrates' court or to let the crime unreported. Third, we analyze the decisions of local judges regarding the harshness of the punishment and the cost of the proceedings.

Our paper combines a positive and a normative analyses. From the positive perspective, we follow the approach initiated by Becker (1968) and Posner (1973) and model victims, criminals and customary judges as agents taking rational decisions and maximizing their objective function (see e.g. Posner (2007) or Miceli (2009) for reviews).

A key prediction derived from our theoretical model is the proliferation of rent-seeking and bribery in the customary judicial system. In the course of the analysis, we also identify two externalities undermining the efficiency of formal justice. We first show that victims do not internalize the fact that incapacitation of criminals through imprisonment is not only beneficial to them, but also to the society as a whole. Second, victims do not fully take into account the threatening effect of imprisonment, which could be a powerful deterrence mechanism. By ignoring both externalities, the victims refer most of their cases to customary justice, leading to low deterrence and hence high prevalence of petty criminality and civil disputes.

From the normative side, we assess the efficiency of a dual judicial system by comparing it to a unique formal judicial system. Rather than basing our comparative analysis exclusively on utilitarianism, deterrence and incapacitation as suggested by Kaplow and Shavell (2003), we also consider other criteria such as restoration of the balance, fairness of trial and proportionality of punishment. Indeed, we believe that any reform should take place in a legal environment constrained by numerous principles that should be taken into account while analyzing policy options. Fairness, proportionality and restitution are therefore important non-economic criteria that should be considered in the analysis of the optimal judicial system, along with economic efficiency.

Relying on the Kaldor compensation criterion (Kaldor, 1939), we also assess the efficiency of the dual judicial system by studying the desirability of three policy changes: lengthening the prison sentences, switching to the magistrates' system only, and subsidizing the magistrates' judicial system. Contrary to common belief, we show that switching from a dual judicial system to a system composed of magistrates' courts only is not necessarily an efficient policy. Rather, we conclude by recommending the subsidization of the statutory judicial system, as it efficiently improves deterrence and incapacitation of serious criminals without undermining the fairness, restorative and proportionality principles.

Our study adds to the literature on rent-seeking and bribery by transposing these concepts popularized by Shleifer and Vishny (1993) and Murphy et al. (1993) to the specificities of African dual judicial systems. This analysis is all the more important since corruption was shown to have a strong impact on growth and public good delivery (see e.g. Svensson (2005)).

Our paper is also related to the recent literature on the impact of pre-colonial and colonial institutions on comparative development of Sub-Saharan African countries (see e.g. Nunn (2009) or Woolcock et al. (2011) for reviews). Our model indeed suggests that the strength of judicial institutions imported through colonization has a strong impact on criminality, corruption and the

enforcement of property rights, which in turn affect economic development (Acemoglu and Robinson, 2001). More specifically, our findings suggest that extreme decentralization of judicial institutions triggers abuses by local authorities. This is in line with Gennaioli and Rainer (2007) who document the strong negative correlation between the degree of decentralization of pre-colonial institutions and the provision of public goods. Finally, our paper is also related to the strand of literature that examines the link between the nature of legal institutions transplanted by colonial powers and long-term economic development (La Porta et al., 2008).

Throughout the paper, our theoretical framework will be supported by evidence from Uganda, one of the best examples of dual judicial system in which customary practice has been enacted in law. We believe that the conclusions of our study may also apply to various other African countries in which both formal and informal judicial institutions coexist.

This essay is organized as follows. The next section presents the genesis of formal and informal judicial institutions in Uganda, their jurisdiction, and the challenges they face. In the third section, we build a theoretical model analyzing the choices made by criminals, victims and customary judges within a dual judicial system. The results are compared to a unique judicial system in section 4. Section 5 studies the economic efficiency of the dual judicial system by assessing the desirability of three policy changes. Section 6 concludes.

2. Judicial institutions in Uganda

Ugandan judicial institutions are a complex blend of customary and modern institutions whose origins date back to British colonization. The legal system in Uganda is based on English common law and local customary law. In this section, we first shed light on the origins of modern institutions. We then review in detail the competences, the pros and cons and the challenges faced by customary and formal justice. Finally, we present some stylized facts about dispute prevalence and the use of both judicial systems.

2.1. Genesis of Ugandan institutions

The Ugandan nation was born in 1914, when the British established a protectorate on several territories and chiefdoms of the area. The British opted for a decentralized structure of governance and justice. They recognized the indigenous Kingdoms and allowed them to exercise judicial power in their courts (Kane et al., 2005; Manyak and Katono, 2010). Customary courts served as first instance jurisdiction for non-capital crimes and matters of customary law. Judgments pronounced in customary tribunals did not entail prison sentences, but rather a restitution to the victim. This philosophy was widespread in the Ugandan justice system. Appeal from these customary courts was to the formal judiciary.

When Uganda gained independence from Britain in 1962, Milton Obote used military power to overthrow the federal constitution. He was declared president in 1967 and imposed a centralized government with a Republican Constitution, abolishing local governments and traditional kingdoms. In 1971, Idi Amin, a former general, seized power and declared himself President. He ran

the country for eight years, until Uganda was invaded by Tanzanian forces, which brought Obote to power.

During the reign of Amin and the second mandate of Obote, Uganda suffered from civil strife, with guerillas fighting in different regions of the country. The most important faction was the National Resistance Movement (NRM), whose future rise to power turned out to be central in shaping Ugandan institutions (Baker, 2004; Manyak and Katono, 2010). Indeed, this movement, led by Yoweri Kaguta Museveni, gradually gained territories during this period but lacked manpower to fill the administrative gap left by the abolishment of local governments. The NRM therefore required the establishment of elected local governments, which were known as *resistance councils*.

At the origin, these councils were charged to provide military assistance. When Museveni became president in 1986, their competences were extended and enacted in law. They became responsible for managing police, justice, health, education and other basic services. To finance these services, the law even provided the local governments with the power to collect taxes. Above this practical need of decentralization, an ideology was born around the objective of building a democracy after years of military despotism and chaos (Baker, 2004; Manyak and Katono, 2010). Indeed, the revolution led by the NRM was aimed at replacing the old regime with a structure that would reflect the people's will. This structure was therefore based on self-governing institutions decentralized to village levels. In 1996, resistance councils were renamed local councils (LCs).

Although Museveni aimed at re-establishing democracy and order, his presidency was involved not only in regional wars in the Democratic Republic of Congo (DRC), Southern Sudan and the Central African Republic, but also in a strife against the Lord's Resistance Army, the main rebel group fighting against Museveni since his rise to power. Civil unrest has particularly affected Northern Uganda, where the conflict led to the deaths of thousands of civilians and forced another million to flee.

2.2. Comparing customary and statutory justice in Uganda

Figure 1 describes the legal possibilities for bringing a matter to justice, depending on the nature of the case. It shows that for civil issues and minor penal offenses, customary and magistrates' courts share concurrent jurisdictions. On the one side, customary justice is administered by LCs, which have jurisdiction over civil suits (such as land disputes) and minor criminal cases (such as theft). Besides LCs, individuals can also complain to magistrates' courts about any civil or minor criminal disputes. In addition, magistrates' courts have the competence to deal with major criminal cases. This dual organization of justice results in an overlap of competences between LCs and magistrates' courts, leading to inconsistencies in judgment outcomes (Baker, 2004; Rugadya et al., 2008). Let us detail the competences and characteristics of both judicial systems and how they overlap.

2.2.1. Statutory justice

The statutory judicial system has the competences to judge any civil and penal matter. It is also the appeal court of last resort for cases that are brought to a customary court in first instance.

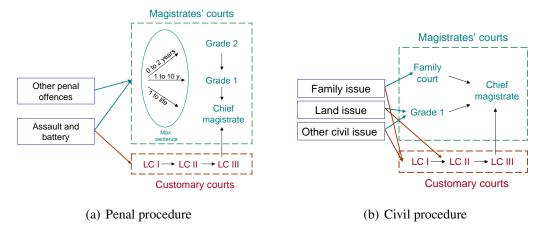


Figure 1: Penal and Civil procedures in Uganda

As the statutory judicial system is inherited from the British colonizer, penal justice takes the form of a "common law adversarial system" in which the State, rather than the victim, charges and prosecutes the defendant. Within this system, lawyers appear to assist the defendants, but not the victims. In rural communities, statutory justice is perceived as retributive rather than conciliatory (Rugadya et al., 2008).

In practice, the statutory judicial system of Uganda suffers from two main drawbacks. First, proceedings to formal courts may last for years and require administrative skills that are too complex for the majority of rural people. Furthermore, procedures must be conducted in English, a language that is poorly spoken in rural areas. The second drawback of the statutory system is the lack of access to legal representation, as there is less than one lawyer for 10,000 people compared to about ten per 10,000 on average in developed countries. This problem is even more salient in rural areas as the vast majority of lawyers exercise in the capital, Kampala.

2.2.2. Customary justice

In Uganda, the custom of reconciliation and restoration of balance is still a common practice for various types of disputes. Customary justice is formally enacted in law. Officially, this type of justice is rendered by LCs, which have jurisdiction over land under customary tenure, marital status of women, paternity, identification of customary heirs, disputes involving children, family matters, and a limited number of minor criminal cases. LCs may make orders for reconciliation, declarations, compensation, restitution, costs, sale, apology, and caution as well as impose fines, guidance or remand in custody. Lawyers are not allowed to appear in LCs. The procedures in LCs are simplified and conducted in indigenous languages, as opposed to formal courts where proceedings must be conducted in English (see Baker (2004); Kane et al. (2005) and Robins (2011) for reviews on customary justice in Uganda). It is worth noting that the common practice frequently exceeds the provision of law in two ways. First, justice is often rendered outside the LCs by the elders of the clan. Second, LCs commonly overstep the limit of their competences by judging major criminal cases. A recent quote illustrates these points:

"Where a person was killed as a result of the inter clan/village disputes, there would be a cleansing ceremony performed by elders from both sides, a sheep would be slaughtered and the meat is shared by both sides. And usually the relative of the deceased would be compensated for the loss of life with cows." (Lamony, 2007).

Customary courts have many valuable features. They are flexible, cheap, fast and accessible. Customary laws evolve with communities and provide them with a sense of ownership, in contrast to formal legal systems that are less understood by communities (Kane et al., 2005). They facilitate the enforcement of law and order at the community level while promoting reconciliation rather than punishment (Baker, 2004). Customary courts are also useful when the formal state institutions are unable to reach the far-off communities, or where such institutions have broken down following civil strife (Kane et al., 2005).

However, in practice, customary justice can be expensive, corrupted, discriminatory, and administered by local judges who have poor knowledge of the law (Kane et al., 2005; Rugadya et al., 2008). First, because of corruption, customary justice is often more expensive than formal justice (Khadiagala, 2001; Rugadya et al., 2008). Second, decisions of customary judges are generally poorly recorded, disabling good monitoring and supervision of their operations. These failures make customary laws vulnerable as they can easily be under the grip of powerful groups within communities (Kane et al., 2005; Manyak and Katono, 2010). Third, the users of customary justice also report fairness issues. It is particularly the case in land conflicts and issues towards women. For example, Khadiagala (2001, 2002) suggests that husbands are often members of the same drinking circles as local council officials. If a man who wants to sell a piece of land anticipates legal action by his wife, he will tend to sell the contested plot to a local council official, who will use his judicial capacity to block legal action. Finally, the most obvious shortcoming of customary justice is the lack of legal knowledge and due process that is impacting the quality and coherence of judgments.

2.3. Stylized Facts

Having set the context and reviewed the characteristics of both judicial systems, let us now present some stylized facts on criminality and disputes resolution in Uganda. This evidence will lay the foundations for our theoretical analysis, developed in section 3.

Stylized fact 1. The prevalence of crime and civil disputes is high in Uganda.

The International Crime and Victimization Survey (ICVS), conducted in urban Uganda in 2000, shows that Uganda's crime rates are relatively high compared to countries that are characterized by a unique judicial system⁴. For example, 19% of the population surveyed in Uganda

⁴We refer to Uganda, as we chose this country to illustrate our findings. Note that we find similar levels of criminality in other Sub-Saharan countries, in which customary and formal law co-exist.

declared to have been assaulted or threatened, 15% to have been robbed and 45% that their private properties had been stolen. In comparison, surveys that were conducted in Europe, Asia and Latin America between 2000 and 2004 show that threats and assaults are reported in less than 10% of the cases on average in Western and Eastern Europe, Latin America and Asia. Robberies are below 5%, except for Latin America where the rates are closer to the Sub-Saharan average. Finally, thefts are reported by less than 15% of the people surveyed outside Sub-Saharan Africa. For matters of theft, Uganda is far above the Sub-Saharan average of 30% reported thefts (Naudé, 2006).

Rugadya et al. (2008) also found differences in the prevalence of land disputes in different regions of Uganda. Using the data from a household survey, they show that 34.9% of households have taken part in a land dispute, and that this proportion goes up to 48% in the eastern regions, where 77% of land property rights are governed by customary tenure and hence regulated by both magistrates' and customary courts. By comparison, the prevalence of land disputes is the lowest in the western region (15.4%), where less than 50% of the land is under customary tenure. Rugadya et al. (2008) also shows that 39.9% of households have experienced a conflict within their family, among which one out of four was domestic violence. In 30.4% of the cases, respondents reported sustained injuries as a consequence of the conflict.

Stylized fact 2. Communities refer most of their disputes to customary justice.

From the land disputes reported in first instance, 57.7% are referred to LCs, and 27.5% to local leaders. In comparison, only 8.9% of cases are referred to magistrates' courts, land tribunals or probation offices. In later instance, less than 25% of households report the dispute to a formal tribunal (Rugadya et al., 2008).

As for family conflicts, one third of the cases are not reported but rather resolved amongst family members. When disputes are brought to resolution institutions, 50% of cases are brought to LCs, 29.2% are referred to the clan and less than 5% to formal institutions. In later instance, formal justice is slightly more often used, with 22% of cases referred (Rugadya et al., 2008).

Even more serious disputes, including murder, that should legally be reported to formal institutions, are in practice often referred to customary justice. Such disputes are often settled between clan leaders, who agree on resolution terms following the principle of restorative justice (Lamony, 2007).

Stylized fact 3. Customary justice is expensive.

Officially, customary justice is cheaper than statutory justice. In practice, this is not always the case. By studying women property rights disputes, Khadiagala (2001) reports that payments made to local council officials often exceed the costs of referring to magistrates' courts. For land disputes, Rugadya et al. (2008) show that the average cost of proceedings in LCs I and II is as high as 15,759 Ugandan Schillings (USh), which is equivalent to one sixth of the average monthly salary. This average cost is even higher if justice is administered by clan or community leaders (26,319 USh), and by family members (52,500 USh). In comparison, Rugadya et al. (2008) report

that the average cost of proceedings in formal land tribunals is 25,500 USh, and 37,857 USh in magistrates' courts.

Furthermore, a careful look at the data shows an important difference between the average cost of proceedings in LCs I and II (15,759 USh) and its median, which is 5,000 USh. This suggests that there is a large variation in the cost of proceedings in LCs, and that some plaintiffs pay a lot more than others. We do not find such a large difference between the average and the median cost in the case of formal courts and land tribunals. We therefore conclude that the cost of customary justice may be at least as high as the cost of statutory justice, especially if justice is administered by clan leaders or family members.

Stylized fact 4. Rent-seeking and bribery are rife in customary justice.

Rugadya et al. (2008) show that in half of the cases reported to LCs, requests for money are made before cases are heard and plaintiffs report having to pay extra fees. Khadiagala (2001) also reports that officials often require unofficial payments in order to access LCs. In nine out of ten cases, LCs do not record these payments, indicating that rent-seeking and corruption by local judicial actors are widespread (Rugadya et al., 2008).

Rent-seeking may not be the only form of "money-grabbing". Bribery may be another one. Indeed, from the complaints on land issues brought to LCs I and II, only 56.4% are settled. In the formal justice, enforced by land tribunals, 84.2% of complaints are resolved (Rugadya et al., 2008). This suggests that complaints before LCs are often not brought to an end as a result of bribery.

The ICVS supports this evidence, as we find that 36% of the households interviewed reported to have been a victim of corruption in Uganda (compared to an average of 23% in Sub-Saharan Africa and 7% in Latin America). It is the second highest corrupted country according to this data, following Albania (Naudé, 2006).

3. The model

In this section, we build a model representing a dual judicial system which mimics the judicial organization of many Sub-Saharan countries. We aim at studying the optimal choice of two groups of individuals: the criminals when about to commit a crime, and the victims when they want to lodge a complaint with a customary or a statutory courts⁵. Given these individual choices, we study the decisions of the local judicial actors when fixing judicial costs and sentences. We show that this dual judicial system has not only the potential to increase access to justice, by offering cheap and local justice based on traditional restoratives principles, but also to deter serious crimes and to

⁵In this theoretical framework, we refer to customary authority, customary court or customary justice whenever victims refer to the clan or to the local councils to seek reparations. We consider these agencies as one type of justice. It can be justified by the fact that when local councils were instituted, a need for arbitrators arose. These were designated among the clan elders or nearby elders (Lamony, 2007).

incapacitate criminals, by sending them to prison. However, without the right incentives, we show that two problems emerge. First, victims can be subject to rent-seeking by judicial actors, and officials may be bribed by criminals in exchange for a light sentence. Second, victims internalize neither the fact that incarcerating hard criminals does not only protect themselves but also other citizens, nor that a credible threat of imprisonment may deter criminality.

3.1. Setup

In each period, N infinite-living individuals have to decide whether to commit a "crime" proscribed by law. As "crimes", we understand any behavior proscribed by the law which induces a harm to a victim. It includes a large range of judicial matters, from family issues, civil conflicts and petty offenses to misdemeanors and felonies. This definition therefore includes civil cases and penal offenses for which both a prejudice and a victim can be identified.

The N individuals are different in two ways: the benefit of their potential criminal behavior, T_i^b , and the cost inflicted on their victims, T_i^c , are different. A crime is hence defined as a pair (T_i^c, T_i^b) . We assume that criminality is a destructive activity: the benefit from a crime is always lower than the harm caused to the victim $(0 < T_i^b < T_i^c)$. The social loss associated to i's crime is defined as the difference $T_i^c - T_i^b$. If an individual commits a crime, we assume that his victim is randomly picked out of the N - 1 other individuals⁶.

For the ease of the presentation, let us assume that at time *t*, individual *i* commits a crime against individual *j*. After *i*'s crime, the victim *j* has to decide whether to lodge a complaint with the customary authority, the magistrates' court or to let the crime unreported. The criminal is likely to be convicted with a probability τ , which is similar for all individuals and both judicial systems⁷.

If the criminal is convicted, he faces the sanction of the court before which the case was brought. On the one hand, if the criminal *i* is condemned by the magistrates' court, he is imprisoned for k_i periods. The State imposes the length of detention. We assume that the utility loss due to incarceration is a function of the discounted length of imprisonment: in t = 0, the utility loss due to imprisonment in period 1 for k_i periods is equal to $J(\kappa_i)$, where κ_i is the discounted prison length, given by $\sum_{t=1}^{k_i} \rho^t$. We also assume that individuals cannot commit crimes behind bars.

On the other hand, if the criminal is condemned by the customary authority, the criminal *i* remains free, but has to pay reparations R_i to his victim. This feature follows the principle of restorative justice. The amount of reparations, R_i , is endogenously determined by the customary authority.

⁶In doing so, we implicitly assume that imprisoned criminals may also be victims of crime. This is realistic for many types of crimes (e.g. thefts, disputes related to child maintenance, murders of relatives).

⁷In reality, the probability τ could be different in magistrates' and customary courts. Assuming that τ is different in each system would favor the type of justice characterized by the highest τ . This would not affect the intuitions of the model. Empirically, it is not clear whether τ is higher in magistrates' or in customary courts.

Both judicial systems have a cost. Bringing the criminal *i* to a customary court costs C_i^c to his victim *j*. This cost is determined by the customary authority, in parallel with the determination of reparations. The cost of magistrates' justice is exogenous and equal to C^m .

In each period, the decision-making process entails three steps. First, the customary authority and the magistrates' court determine the level of sanction for each type of crime. The customary authority additionally determines the cost of initiating judicial proceedings. Second, knowing the sanctions they possibly face, individuals choose to commit a crime if the return on such behavior is higher than the expected sanction. Third, victims decide to lodge a complaint with the local authority or the magistrates' court, or to let the crime unprosecuted if the cost of justice is too high and the issue uncertain.

Let us solve the model by backward induction, for a criminal *i* and his victim *j*. We first analyze the decisions of victims, who have to choose whether to bring a complaint to the customary or the magistrates' justice (section 3.2). Second, we examine the decision to commit a crime (section 3.3). Third, we close the model by putting under scrutiny the decisions of customary judges regarding the amount of reparations R_i , and its cost C_i^c (section 3.4). Finally, we study the nature of the equilibrium for each type of crime as a function of the gravity of the harm and the severity of sanctions (section 3.5). In section 4, the dual judicial system is compared to a judiciary composed of magistrates' courts only. Section 5 discusses the desirability of three policies aiming to improve the efficiency of the dual judicial system.

3.2. The decision of the victim

As subjects of crimes, victims face three possible choices: they can refer the matter to either type of justice, or refrain from reporting it. More specifically, victims face a trade-off between receiving immediate financial compensations through the process of customary justice, and incapacitating the criminal for k_i periods via magistrates' justice. The net gain from referring the matter before the customary authority is simply the difference between the expected value of reparations and the cost of customary justice:

$$\tau R_i - C_i^c. \tag{1}$$

Calculating the net benefit from lodging a complaint with a magistrates' court is less straightforward, and requires the introduction of a supplementary assumption, related to strategic behavior and beliefs. The individual benefit from imprisoning a criminal comes from the reduced probability to be a victim of his potential crimes in the future. The valuation of this benefit depends on the beliefs about the decisions of other victims in the future. Indeed, if a victim j of a criminal i believes that i's future victims will refer the matter before the magistrates' court, his incentive to refer the matter to the magistrates' court is low, as he knows that the criminal will be anyhow prosecuted and incapacitated with a probability τ at the next period. Conversely, if the victim jbelieves that i's future victims will not bring their matter before the magistrates' court, the incentive to lodge a complaint with the formal court is higher, as i is expected to commit a crime in each future period. Without additional assumption, we see that the decisions of victims depend on beliefs, and is therefore strategic.

As the resolution of this kind of repeated game in not the main purpose of this paper, we assume that victims do not act strategically, and only take into account the benefit of their own decision, without forecasting decisions of other individuals in the future. This is equivalent to assuming that victims of a given criminal believe that his future victims will never refer their case to the magistrates' court. Having in mind this assumption of non-strategic behavior, the individual's benefit from imprisoning a criminal is given by:

$$\frac{\tau \sum_{t=1}^{k_i} \rho^t}{N-1} T_i^c - C^m,$$

where ρ is the discount rate. This expression follows from the fact that individuals have one chance over N - 1 of being i's victim at each period, that criminal *i* is imprisoned for k_i periods with a probability τ , and that the cost of being again the victim of *i* in the future is T_i^c . This may be rewritten:

$$\frac{\tau \kappa_i}{N-1} T_i^c - C^m, \tag{2}$$

where $\kappa_i = \sum_{t=1}^{k_i} \rho^t$ is the subjective, or "discounted", length of imprisonment.

Having the expressions (1) and (2) in mind, let us analyze the three possibilities offered to a victim. First, the victim lets the crime unprosecuted if the cost of proceedings is higher than the expected benefit of lodging a complaint with any judicial systems. Formally, this occurs if conditions (3) and (4) are fulfilled:

$$\left(C_{i}^{c} > \tau R_{i}\right) \tag{3}$$

$$\begin{cases} C^m > \frac{\tau \kappa_i}{N-1} T_i^c. \end{cases}$$
(4)

Second, the victim j refers the matter to the customary authority if the cost of proceedings are lower than the expected value of reparations (condition (5)), and if the net expected benefit from reparations exceeds the net expected benefit from imprisoning the criminal (condition (6)):

$$\left(C_i^c < \tau R_i\right) \tag{5}$$

$$\left\{\tau R_i - C_i^c > \frac{\tau \kappa_i}{N-1} T_i^c - C^m.\right.$$
(6)

Finally, the victim *j* refers the matter to the magistrates' court if the cost of magistrates' justice is lower than the expected benefit from imprisoning the criminal (condition (7)), and if the net expected benefit from imprisoning the criminal exceeds the net expected benefit from reparations (condition (8)):

$$\int C^m < \frac{\tau \kappa_i}{N-1} T_i^c \tag{7}$$

$$\left(\tau R_i - C_i^c < \frac{\tau \kappa_i}{N-1} T_i^c - C^m.\right)$$
(8)

Two potential sources of social inefficiency arise from victims' decisions to refer to the magistrates' court. First, victims do not take into account the deterrence effect following the threat of imprisonment. Second, in calculating the benefit from imprisoning the criminal, victims consider only their future probability to be the victim of a crime, and do not take into account the positive externality of their decision on other potential victims. Indeed, if the criminal *i* is imprisoned during k_i periods, not only *j*, but also all other individuals are protected against *i*'s crimes during k_i periods. An individual who internalizes this externality would not take into account the denominator N - 1 in conditions (4), (6), (7) and (8).

3.3. The decision to engage in crime

The decision of *i* to commit a crime depends on his individual benefit from crime, T_i^b , and on the expected outcome of the judgment if the crime is prosecuted. First, if individual *i* expects that his victim will not bring the matter to justice, he always engages in criminal behavior. This happens when conditions (3) and (4) are satisfied.

Second, if individual *i* believes that his victim will lodge a complaint to the customary court (conditions (5) and (6) are satisfied), then individual *i* commits a crime only if his benefit from the crime is higher than the amount of reparations he expects to pay:

$$T_i^b > \tau R. \tag{9}$$

Finally, if individual i expects to be prosecuted by the magistrates' court (conditions (7) and (8) satisfied), he commits a crime only if his benefit from the crime is higher than the expected cost of being imprisoned:

$$T_i^b > \tau J(\kappa_i). \tag{10}$$

3.4. The decision of the customary authority

We have not yet discussed how the customary authority fixes the amount of reparations to be paid by criminals to their victims, neither how it determines the cost of proceedings⁸. Assumptions surrounding these decision processes heavily influence who engages in criminal behavior, and to which court, if at all, matters are referred. In order to close the model, we make two fundamental

⁸Recall that this cost and the length of detention are exogenous for magistrates' court.

assumptions about how the customary authority determines of the cost of proceedings and the amount of reparations.

First, we follow Posner (1984, 2007) and Miceli (2009) by assuming that the customary authority maximizes its profit. This assumption is justified by the fact that extra fees are repeatedly reported by plaintiffs in customary courts (stylized fact 4). While customary justice should be, in principle, much cheaper than magistrates' justice, Rugadya et al. (2008) show that the average cost of customary justice may be ultimately higher than magistrates' justice (stylized fact 3). This suggests that the objective of customary judges is not only solving matters and restoring relationships, but also grabbing money for their own profit. In what follows, profit and proceeding fees should be understood in their broader meanings, including monetary payments, bribes as well as non-monetary gifts or perks.

Second, we consider two possible ways for local authority to determine the amount of reparations and the cost of proceedings. On one hand, for some crimes like thefts, child custody, or other civil issues, the harm of crime T_i^c may be easily calculated. For these matters, local courts generally seek to restore the situation by compensating the victim with reparations equal to the harm: $R_i = T_i^c$. The cost of proceedings is then determined in order to maximize the profit of the local court. On the other hand, for more serious crimes like threats, violence, child trafficking, rape or murder, the harm incurred by the victim is not easily quantifiable. In that case, we assume that the local authority determines both the cost of proceedings and the amount of reparations in order to maximize its revenue. Figure 2 classifies crimes according to their nature and the possibility to quantify their harm.

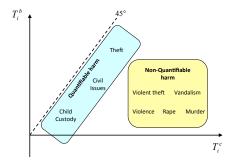
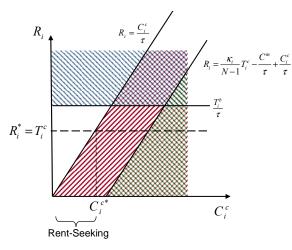


Figure 2: Quantifiable and non-quantifiable crimes as a function of T_i^c and T_i^b .

Having in mind the assumption of profit maximization, let us analyze separately the cases of quantifiable and non-quantifiable harm incurred by the victim.

On one hand, if the harm is quantifiable, the local authority seeks to restore the situation by compensating the victim with reparations equal to the harm caused by the criminal: $R_i = T_i^c$. The local authority then decides on the cost of proceedings so as to maximize its profit. The cost of proceedings, C_i^c , is therefore fixed at the highest level for which conditions (5) and (6) are satisfied,

that is the maximum cost for which the victim still chooses to refer to the local authority. This level, C_i^{c*} , is represented in figure 3 by the intersection between the dotted horizontal line which corresponds to the level of the reparations $R_i = T_i^c$, and the upper diagonal line for which condition (5) is binding ⁹.



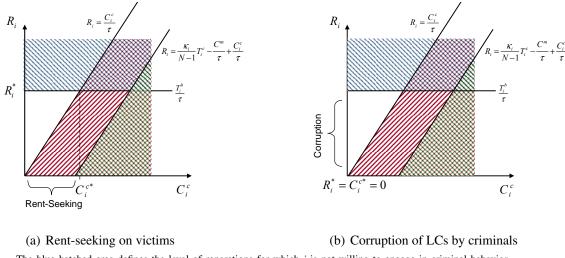
The blue hatched area defines the level of reparations for which *i* is not willing to engage in criminal behavior (condition (9) not satisfied). The red hatched area determines the combination of R_i and C_i^c such that the victim *j* is not willing to refer the matter to customary authority because proceeding fees are to high compared to the expected amount of reparations (condition (5) not satisfied). The green hatched area determines the combination of R_i and C_i^c such that the victim *j* prefers to refer the matter to the magistrates' court rather than to the customary authority (condition (6) not satisfied). Therefore, the white area defines the combination of R_i and C_i^c for which the conditions (9), (5) and (6) are simultaneously satisfied.

Figure 3: LCs' Optimal choice of C_i^c for crimes inducing quantifiable harm $(R_i = T_i^c)$

On the other hand, when the harm induced by the crime is non-quantifiable, the local authority determines both the amount of reparations R_i and the cost of the proceedings C_i^c by maximizing its profits. As in the quantifiable case, the local authority fixes C_i^c at the level for which conditions (5) and (6) are satisfied, that is, the maximum cost for which the victim still chooses to refer the matter to the customary authority in order to receive reparations. For determining the level of reparations R_i , the local authority faces two contradictory constraints. The higher the amount of reparations, the higher the cost of proceedings C_i^c satisfying conditions (5) and (6). However, if reparations R_i are set too high, no individual finds optimal to engage in criminal behavior, and the revenue of the local authority drops to zero. The optimal level of R_i is then the highest level of R_i is determined such that individuals are willing to commit crimes gives a rationale for the high levels of crime and dispute in Uganda (stylized fact 1). Given this optimal R_i , the level of

⁹In figure 3, we assumed that N and C^m are high, such that customary courts are preferred to magistrates' courts (condition (6) satisfied). We also assumed that the social loss associated to i's crime, $T_i^c - T_i^b$, is low, such that the individual *i* is willing to engage in criminal behavior (condition (9) satisfied). The general case is discussed in section 3.5.

 C_i^c is the highest for which the victim *i* is still willing to refer the matter to the customary authority (conditions (5) and (6) satisfied). This determination process is represented in figure 4(a). The cost of proceedings C_i^{c*} is determined by the intersection between the horizontal line for which condition (9) is binding, and the upper diagonal line for which condition (5) is binding ¹⁰.



The blue hatched area defines the level of reparations for which *i* is not willing to engage in criminal behavior (condition (9) not satisfied). The red hatched area determines the combination of R_i and C_i^c such that the victim *j* is not willing to refer the matter to customary authority because proceeding fees are to high compared to the expected amount of reparations (condition (5) not satisfied). The green hatched area determines the combination of R_i and C_i^c such that the victim *j* prefers to refer the matter to the magistrates' court rather than to the customary authority (condition (6) not satisfied). Therefore, the white area defines the combination of R_i and C_i^c for which the conditions (9), (5) and (6) are simultaneously satisfied.

Figure 4: LCs' Optimal choice of C_i^c and R_i for crimes inducing non-quantifiable harm.

For both quantifiable and non-quantifiable cases, the large amount C_i^{c*} perceived by the local authority may be regarded as a form of rent-seeking. The customary tribunal grabs a large part of the reparations by setting the proceedings' costs high, letting to the victim an amount just sufficient for still being willing to refer the matter to the local authority. This form of rent-seeking is commonly reported in Uganda (stylized fact 4).

In the case of non-quantifiable harm, another possibility for local authority to extract revenue is to set the amount of reparations and the cost of proceedings at a low level (or a zero level), but asking the criminal for a bribe in exchange for a light sentence. This alternative decision process is represented in figure 4(b). The cost of proceedings is set to zero, and the level of reparations is set at the lowest level so that condition (5) and (6) are still satisfied. At such cost and such level of reparations, the victim is still willing to refer his matter to the customary authority. In exchange for light sentence, the criminal has to bribe the customary authority. This corruption process may involve an exchange of money, or take the more subtle form of intra-group favoritism and minority

¹⁰In figure 4(a), we assumed that N and C^m are high, such that customary courts are preferred to magistrates' courts (condition (6)).

discrimination. For the customary authority, the expected gain from corruption is higher than the expected gain from rent-seeking, as τ is smaller than 1.

So far, we have stated two main results characterizing the decisions of agents. First, victims do not internalize two important factors when choosing whether to refer their case to either court. On the one hand, they do not take into account that referring cases to formal courts and incarcerating criminals have a positive externality on their peers. On the other hand, they do not consider that the threat of imprisonment deters crime. These externalities provide a rationale for the high prevalence of petty criminality in Uganda (stylized fact 1) and the high number of crimes reported to customary courts (stylized fact 2). Second, our theoretical framework captures two important problems characterizing judicial proceedings in the informal system: rent-seeking and bribery. Both forms of corruption are frequently reported in Uganda, and have been shown to considerably increase the cost of customary justice (stylized facts 3 and 4).

Up to now, we have considered the decisions of a unique criminal and his victim. Before going to policy recommendations, we still have to look at the characterization of the general equilibrium, by looking at the decisions of criminals and victims for each possible crime.

3.5. Characterization of the equilibrium and typology of crime

Up to now, we have considered separately the decisions of a victim j, a criminal i and the customary authority. Let us now analyze the economy as a whole. In the set-up of the model, we have assumed that individuals are endowed with different criminal capacities: the benefit from crime T_i^b and the cost incurred by the victim T_i^c are different for each potential criminal. For each possible pair of T_i^b and T_i^c , we now determine if the individual commits a crime and if the victim refers the case to the customary authority, to the magistrates' court, or lets the crime unreported. As before, we have to distinguish whether the harm of the crime is quantifiable or not.

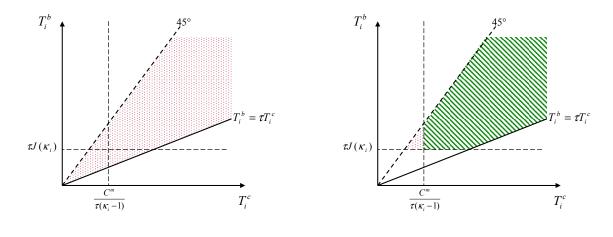
3.5.1. Quantifiable harm

According to our model, individuals engage in quantifiable crimes as long as the harm induced to their victims is close to their benefit ($T_i^c \approx T_i^b$ such that $T_i^b > \tau T_i^c$). This condition is generally satisfied as quantifiable crimes usually consist of disputes related to transfer of goods (e.g. theft or child custody). In this case, victims refer the matter before the customary court, and are compensated by reparations equivalent to the harm incurred with a probability τ^{11} . When the harm of the

¹¹This is always true if $N - 1 > \kappa_i$ (such that $\exists C_i^c \ge 0$ satisfying condition (6)). Simple examples show that this assumption is reasonable in the case of crimes with quantifiable harm. Let us assume that individuals have the possibility to commit a crime every month in a village of 1000 inhabitants (this is approximately the number of inhabitants per village in Uganda). For the condition $N - 1 > \kappa_i$ to be unmet, the discounted length of imprisonment κ_i should be higher than 83 years of imprisonment (recall that $\kappa_i < k_i$). If the criminal commits his crime every year, the discounted length of imprisonment should be at least 999 years and the harm T_i^c should be high enough to convince victims to refer the matter to the magistrates' court. These short examples show that the lengths of imprisonment that are necessary to contradict $N - 1 > \kappa_i$ are too high to be reasonable for issues like theft and civil disputes. If $N - 1 < \kappa_i$, very serious crime will be referred to the magistrates' court.

crime T_i^c is much higher than the benefit T_i^b (such that $T_i^b < \tau T_i^c$), the individual does not engage in criminal behavior as the amount of reparations he expects to pay is higher than his benefits from the crime. This reasoning is represented in figure 5(a) where we characterize the nature of the equilibrium for each possible crime, i.e. for any pair (T_i^b, T_i^c) . The red spotted area defines the crimes that are referred to customary courts. The white area delineates the crimes that are deterred because potential criminals fear the high amount of reparations in case of conviction.

In the equilibrium described in figure 5(a), victims neither internalize the fact that incarcerating criminal *i* also protects other citizens from *i*'s crimes during k_i periods, nor that the threat of referring the matter to magistrates' court may dissuade the individual *i* from engaging in criminal activity. Because victims are selfish and attracted by reparations, culprits of serious crimes are referred before the customary court and condemned to pay low reparations. In contrast, figure 5(b) shows that if victims internalized the two externalities, individuals who are guilty of serious crime would be prosecuted by the magistrates' court (green hatched area). Furthermore, if the imprisonment is lengthy enough, the fear of imprisonment would be sufficient to deter criminality (white triangle above the diagonal line $T_i^b = \tau T_i^c$ and below the horizontal line $T_i^b = \tau J(\kappa_i)$).



(a) Typology for quantifiable crimes

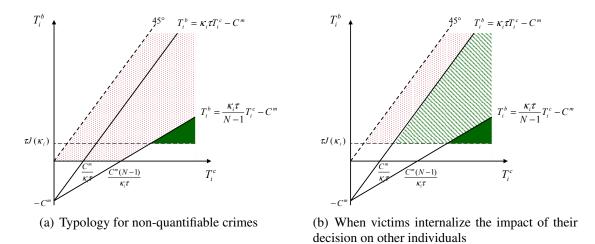
(b) When victims internalize the impact of their decision on other individuals

The red spotted area defines the crimes that are prosecuted before the customary authority. The white area represents the conditions for which crime is deterred. The green hatched area determines the crimes for which the internalization induces that the crime is prosecuted before the magistrates' court.

Figure 5: Typology for quantifiable crimes

3.5.2. Non-quantifiable harm

According to our model, individuals endowed with relatively low values of T_i^b and T_i^c engage in non-quantifiable crimes as they expect to be prosecuted by customary court if they get caught. As in the quantifiable case, even some serious crimes are referred to customary courts, as victims do not internalize the social benefit of incarcerating criminals. Magistrates' courts only prosecute crimes for which the harm incurred T_i^c is much higher than the benefits of the criminal (condition (10) satisfied).



The red spotted area defines the crimes that are prosecuted before the customary authority. The white area represents the conditions for which crime is deterred. The green plain area determines the crimes that are referred to the magistrates' court. The green hatched area determines the crimes for which the internalization induces that the crime is prosecuted before the magistrates' court.

Figure 6: Typology for non-quantifiable crimes

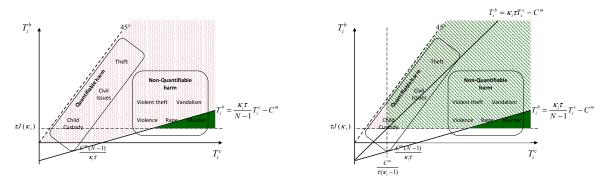
For each possible crime, figure 6(a) shows that most of the time, individuals engage in criminal behavior and victims refer the case to the customary authority (red spotted area). Indeed, victims are tempted to refer the matter before the customary authority in order to get reparations. As local tribunals impose low sentences, individuals are prone to engage in criminality. The victim refers to the magistrates' court only if harm T_i^c is very serious (green plain area). If the expected sentence is sufficiently harsh compared to the benefit of the crime (condition (10) satisfied), the threat of referring the case to the magistrates' court is sufficient to deter the crime (white area).

Again, in the equilibrium described in figure 6(a), victims neither internalize the fact that incarcerating the criminal *i* also protects other citizens, nor that the threat of referring the matter to magistrates' court may deter crime. Figure 6(b) depicts the equilibrium in which victims would internalize the two externalities, leading to the formal prosecution and the imprisonment of individuals who are guilty of serious crimes (green hatched area). As in the quantifiable case, if imprisonment is lengthy enough, the fear of imprisonment is sufficient to deter criminality (white parallelogram below the horizontal line $T_i^b = \tau J(\kappa_i)$).

3.5.3. General typology of crime

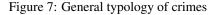
Let us summarize the results of the last two sections in a coherent and unified picture of criminal and judicial activities. More precisely, let us move a step closer to reality by analyzing real examples of quantifiable and non-quantifiable crimes in the light of our theoretical predictions. Figure 7 is a step in that direction. Figures 2, 5 and 6 are superimposed to provide a unique picture of criminality. Figure 7(a) shows that most of the penal offences and civil matters are referred to the customary authority (red spotted area). Only very serious penal offenses are prosecuted by the magistrates' court and, in this case, convicted criminals are imprisoned (green plain area). If the sanction of magistrates' courts is expected to be harsh, very serious crimes will be deterred (white parallelogram).

If the victims internalized the two abovementioned externalities, this picture would be radically different (figure 7(b)). Most of the penal cases and important civil disputes would be arbitrated by magistrates' courts, and petty crimes would be deterred by the imprisonment threat. Only minor cases would be referred to the customary authority.



(a) General typology of crimes

(b) When victims internalize the impact of their decision on other individuals



4. Comparing a dual judicial system with a unique formal system

So far, our model focused on a judicial system composed of both a magistrates' court and a customary authority. In most western countries, the judicial system is composed solely of magistrates' courts. In this section, we describe the equilibrium of such judicial system in which victims can only refer their case to a formal court. This unique judicial system will then be compared against its dual counterpart in section 4.2. Finally, in section 5, we will evaluate if switching from a dual to a unique system has the potential to improve the efficiency of the judiciary.

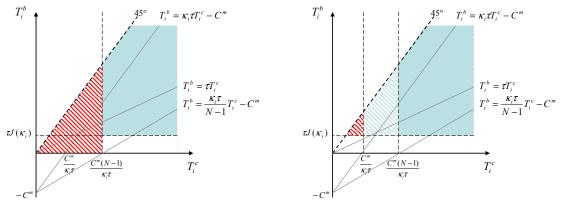
4.1. Characterization of the equilibrium in a modern judicial system, without customary authority

In a unique formal system, only conditions (7) and (10) matter. Condition (7) determines whether or not victims refer the case before the court. Condition (10) determines whether or not individuals engage in criminal behavior. These two conditions are depicted in figure 8(a). Since the decision of the victim does not depend on the benefit of the criminal, condition (7) is delimited by a vertical line. On the left-hand side of this line, crimes are not prosecuted given that the

costs of proceedings are too high (red hatched area). On the right-hand side of this line, crimes are deterred if the punishment is harsh (white area), and referred to the magistrates' court if the punishment is moderate (blue area).

If victims internalized the fact that their decision to incarcerate criminals protects others and deters criminality, the number of unprosecuted cases would decrease (to the red hatched area in figure 8(b)), and most petty crimes would be deterred (white rectangle).

Let us now compare the unique and dual judicial systems. We will then turn to an economic efficiency analysis in section 5.



(a) Typology of crime in a unique judicial system

(b) When victims internalize the impact of their decision on other individuals

Figure 8: Typology in a modern judicial system without customary authority

4.2. Comparing dual and unique judicial systems using a multi-criteria approach

Five objectives are commonly reported for justifying the enforcement of criminal law by punishment: retribution, deterrence, incapacitation, restitution and rehabilitation. On top of these five objectives, two principles related to the judicial process are widely accepted. First, the "Severity in punishment must be proportional to the gravity of the offense" (Bedau and Kelly, 2010). Second, "everyone is entitled in full equality to a fair and public hearing by an independent and impartial tribunal, in the determination of his rights and obligations and of any criminal charge against him" (Universal Declaration of Human Right, Art.10). The aim of this section is to compare the dual and the unique judicial system in the light of these seven guiding principles. These criteria are not exhaustive, but offer a good frame encompassing criteria from both western and customary traditions.

Retribution is a tit-for-tat punishment: the criminal has to pay back for his offense. In the dual judicial system, the retribution objective is always met, as criminals have to pay for their crime in one way or another. For each crime, proceedings are engaged to customary or magistrates'

courts and criminals face sanctions, in terms of reparations to the victim, bribes to the authority or imprisonment. By comparison, in the case of a unique system, the retribution criterion is not always fulfilled. Figure 8(a) shows that in a unique judicial system, victims only refer serious crimes to the magistrates' court. Petty crimes for which condition (7) is not satisfied remain unprosecuted and unpunished (red area in figure 8(a)). However, the harshness of the sanction was not taken into account in the previous argument. If we consider the overall loss of utility due to punishment, and assume that imprisonment is more retributive, the unique system as a whole (considering all crimes) may be ultimately more retributive than the dual system, as more crimes are referred to magistrates' courts.

Deterrence consists in preventing crime using sanctions as a threat. In the dual judicial system, deterrence is low since criminals anticipate to be prosecuted before the customary authority, annihilating the scope of the threat of imprisonment as a deterrence mechanism. This follows the fact that the positive externality of imprisonment is not internalized, so that people mostly refer their case to customary justice. In addition, the local authority, maximizing its profits, sets reparations at low levels, and hence favors criminality instead of discouraging it. In the unique system, deterrence is slightly higher, even if petty crimes are left unprosecuted. Graphically, the improvement is shown by the additional white triangle in figure 8(a) compared to figure 7(a). Overall, the unique system always achieves better results in terms of deterrence. Note that when victims do internalize the externality of sending criminals to prison, crime deterrence is enhanced in both systems (white parallelogram in figure 7(b) and white rectangle in figure 8(b)).

Incapacitation is directly related to imprisonment: criminals cannot commit crimes behind bars. Incapacitation of criminals is rare in the dual judicial system. As we have seen, people tend to turn more often to customary justice, which does not send criminals to prison. Criminals are never incapacitated for petty crimes since they are always referred to customary justice. Only very serious crimes are liable to imprisonment (plain triangle in Figure 7(a)). Turning to a unique judicial system, incapacitation is strengthened as more crimes lead to imprisonment (blue area in figure 8(a)). Still, petty crimes are left unprosecuted. It is worth noting that the incapacitation of criminals would be maximal if magistrates' justice was free of costs. If C^m is null, any crime committed under a unique judicial system will be prosecuted, and its perpetrator sent to prison with a probability τ . When victims take into account the social benefits of imprisonment, incapacitation is reinforced (figures 7(b) and 8(b)). Overall, the unique system is better fitted for incapacitating criminals.

Restitution was put forward in our analysis through the principle of restorative justice. It requires actions encouraging the return to the status-quo for the victim. In contrast to imprisonment, this goal can be seen as an alternative sort of punishment, which directly compensates the victim. In the dual judicial system, as long as justice officials are corrupted, justice does not offer full restitution to the victims in most cases. In comparison, the unique system never fulfills the restitution criterion as the only sanction faced by the criminal is in the form of imprisonment. Despite corruption, the dual judicial system is therefore a slightly better alternative with respect to the restitution criterion. Rehabilitation intends to reform a convict so that he can re-integrate into society upon his release. We did not model this principle in our theoretical framework. The comparison of both systems in terms of rehabilitation is therefore beyond the scope of this paper.

The proportionality of punishment is a principle acknowledging that the sentence should be determined in proportion to the severity of the crime. In the dual system, this principle directly follows when the harm is quantifiable, as the victim is compensated to the extent of the harm incurred by the crime (recall that $R_i = T_i^c$). Conversely, when the harm is not quantifiable, the amount of reparations is proportional to the benefit of the crime ($R_i = T_i^b/\tau$). Therefore, when the social loss associated to the crime is high ($T_i^c \gg T_i^b$), as is often the case for non-quantifiable crimes, the punishment determined by the customary court is light compared to the gravity of the crime. In this case, the proportionality principle is satisfied from the point of view of the criminal, but not necessarily from the point of view of the victim. As the proportionality of the punishment is generally seen as a right of the defendant, we conclude that customary justice satisfies the principle of proportionality. A similar argument is not straightforward in the case of magistrates' justice as k_i is exogenous in our model. We will come back to this criterion in section 5 when discussing the desirability of increasing lengths of imprisonment.

The last principle follows from the tenth article of the Universal Declaration of Human Rights: "everyone is entitled in full equality to a fair and public hearing by an independent and impartial tribunal, in the determination of his rights and obligations and of any criminal charge against him". We have seen that in the dual system, corruption practices emerged in the form of rent-seeking by authorities and bribery by criminals. Both forms of corruption are directed to victims, who bear the cost of these misconducts. Accordingly, the customary judicial system does not respect the principles of accessibility and fairness of justice. As we treated the behavior of magistrates as exogenous, our model is not conclusive on how statutory justice respects these principles.

5. Efficiency and policy

Up to now, we have built a model of legal pluralism characterized by high level of petty criminality and civil disputes. We showed that customary judges may abuse their status through rentseeking and bribery, and we identified two externalities that make victims prefer customary justice over magistrates' courts. In the last section, we compared legal pluralism with a system composed of magistrates' courts only.

The objective of this section is to assess the efficiency of the equilibrium described in section 3.5, as well as to evaluate the desirability of three policy changes: an increase in the length of imprisonment k_i , an institutional change from a dual judicial system towards a magistrates' system only, and the subsidization of magistrates' justice.

Indeed, at first sight, the equilibrium described in the above model seems to be inefficient. For each crime, there is a social loss equivalent to $T_i^c - T_i^b$. Furthermore, serious crimes that are punished by a prison sentence induce a deadweight loss $J(\kappa_i)$ to their author. The judicial process also involves losses in terms of infrastructure, organization and opportunity cost that can be regarded as social losses.

Beside apparent social losses, both criminality and the judicial process involve important transfers. First, while the criminal enjoys a gain T_i^b for each of his crimes, his victim suffers from a loss equivalent to T_i^c . Second, both the customary and the statutory judicial processes involve different kinds of transfer. On the customary side, reparations are transfers from criminals to their victims, rent-seeking is a transfer from victims to customary judges, and bribery involves an exchange between criminals and customary judges. On the statutory side, proceeding costs can also be seen as a transfer of money.

Within this context, determining whether or not the equilibrium is efficient and whether or not a policy change is desirable is not straightforward. The following quote by Baumol (1946) illustrates this point: "As soon as a redistribution of income is involved in some innovation, the economist is prevented from passing judgment on the desirability of that innovation since he is unable to tell whether the change in distribution is good, bad or indifferent, or whether the importance of this latter effect is of sufficient magnitude to vitiate any other considerations which may have led to recommendation or rejection of the proposal."

Having this in mind, the use of a social welfare function in order to rank alternative policies and utility allocations does not seem appropriate, as it involves "making interpersonal comparisons of utility for which there is, as yet, no scientific basis. This approach also leaves open the question of what the right social welfare function is" (Coate, 2000). Related to our model of criminality and legal pluralism, constructing a social welfare function requires answering ambiguous and debatable questions such as "how should the welfare of criminals be taken into account?", and "How should the benefit from rent-seeking and bribery be accounted for in the social welfare function?". As there is no clear answer to these questions, we will turn our efficiency analysis to a criteria approach.

In welfare economics, the most widely used criterion is the Pareto criterion. In a Pareto efficient economy, no reallocation of goods can be made without making at least one individual worse off. The application of this criterion to our dual judicial system is not straightforward. As our economy is characterized by one type of good only, any redistribution of goods implies a loss of welfare for some individuals. Furthermore, none of the three policies we aim to evaluate may lead to a Pareto improvement. First, starting from the initial situation described in figure 7(a), an increase in the length of detention reduces the welfare of serious criminals who would have been incarcerated even in the absence of the policy (green plain area). Second, an institutional change from a dual justice system towards a magistrates' justice system would reduce the revenue of the customary authority, as well as the welfare of individuals who engage in criminal activity in the dual judicial system, and who would be deterred in the unique system. Third, the subsidization of magistrates' justice would increase the number of criminals referred to magistrates' courts, and therefore reduce the revenue of the customary authority, as well as the welfare of criminals referred to magistrates' courts, and therefore reduce the revenue of the customary authority, as well as the welfare of criminals referred to magistrates' courts, and therefore reduce the revenue of the customary authority, as well as the welfare of criminals referred to magistrates' courts, and therefore reduce the revenue of the customary authority, as well as the welfare of these criminals. Again, one may argue that welfare related to illegal activities (crime, rent-seeking and bribery) should not be taken

into account, but this judgment involves the same debatable questions as with the social welfare function approach.

Our final choice is therefore the compensation criterion of Kaldor (1939), for which the distribution of welfare is not a restrictive constraint. Indeed, evaluating a policy change according to the criterion of Kaldor requires comparing "the status quo utility allocation with the set of utility allocations that can be reached through lump sum redistribution from the post-change situation. A policy change is then deemed desirable if there exists a utility allocation in the latter set which Pareto dominates the status quo" (Coate, 2000). Therefore, the Kaldor criterion allows policies to have gainers and losers. Contrary to the Pareto criterion, not all agents are supposed to benefit from the policy. The Kaldor criterion only requires that the gainers could compensate the losers for their losses, but does not require the compensation to be paid effectively. As pointed out by Coate (2000), the ethical justification of the Kaldor criterion is unclear: "why should the fact that the gainers could compensate the losers make socially desirable the infliction of those losses". As we will see, this ethical issue is less relevant in our case because the losses that are generated by the three policy changes we evaluate are only affecting the benefits from illegal activities.

In what follows, we will use the Kaldor criterion to assess the efficiency of three policies: an increase in the length of imprisonment k_i (section 5.1), an institutional change from a dual judicial system towards a magistrates' system only (section 5.2), and the subsidization of magistrates' justice (section 5.3). We will regularly refer to the five above-mentioned objectives of punishment and two quality criteria in order to move our analysis closer to justice principles.

5.1. Lengthening of prison sentences

The lengthening of prison sentences is a policy aiming at increasing deterrence and incapacitation. This can be seen in figure 7(a). From the point of view of the criminal, increasing k_i is equivalent to moving the horizontal line upward. From the point of view of the victim, increasing k_i is equivalent to increasing the slope of the diagonal line. These two simultaneous effects would increase both deterrence (white area) and incapacitation of criminals (green plain area).

If we take this reasoning a step further, it would be theoretically possible to deter all types of crimes by choosing k_i sufficiently high for all types of crime. Such a policy would obviously satisfy the Kaldor criterion: some criminals and customary judges would be worst off, but their loss could be compensated by the social gain from a crime-free society (each crime which is deterred induces a social gain $T_i^c - T_i^b$). Furthermore, with such an extreme measure, all objectives of punishment would be satisfied: deterrence is total, and if no crime is committed, there is no need for retribution, incapacitation, rehabilitation and restitution.

Is a sharp lengthening of prison sentences the panacea we are looking for? Rather than accepting this simplistic conclusion, we argue that the reasoning leading to the prediction that deterrence could be total is misleading for two reasons. A first counterargument comes from the distinction between the prison length k_i , and the subjective, or discounted, prison length κ_i . Indeed, even if k_i is set to an extremely high value, the subjective length of imprisonment may remain low if the discount rate ρ is close to zero. Such a low discount rate is realistic for impulsive crimes or for poor people resigned to short-term survival strategies. For these particular criminals, increasing k_i would only have an incapacitation effect, but no deterrence effect. Second, it is worth noting that full deterrence can be achieved in our model because it is deterministic. In a stochastic framework, where individuals are likely to commit reckless or unintended crimes, deterrence would never be total, even for extreme lengths of detention.

When deterrence is not total, an extreme lengthening of all prison sentences may contradict the Kaldor criterion and violate the principle of proportionality. Formally, let us assume that, in each period, a non-criminal *i* has a probability p_i to commit a unintended crime (T_i^c, T_i^b) . Let C^s denote the social cost per period of detention and per criminal. This cost includes the loss of utility due to imprisonment, as well as judicial costs, imprisonment costs, management costs, etc. Then, considering each crime separately, we arrive at the conclusion that incapacitating individual *i* decreases social cost of criminality only if the social cost per period of detention C^s is lower than $p_i(T_i^c - T_i^b)$. Therefore, increasing markedly $k_i \forall i$ without considering the nature of the crime may contradict the Kaldor criterion, especially if unintended crimes are numerous and characterized by a low social loss $T_i^c - T_i^b$. Many civil issues satisfy these two conditions. In conclusion, whether or not a sharp increase in k_i for all types of crime satisfies the Kaldor criterion is hard to determine, and ultimately depends on the social cost of imprisoning criminals and on the distribution of criminal opportunities in the society. Furthermore, such an extreme policy would violate the principle of proportionality.

A more nuanced conclusion is possible by considering the increase of each k_i for all *i* as a separate policy. In this case, an increase in k_i satisfies the Kaldor criterion if the increase in k_i is high enough to deter the crime in a deterministic framework, and if $C^s < p_i(T_i^c - T_i^b)$ in a stochastic framework. Therefore, increasing k_i for civil matters would most of the time go against the Kaldor criterion. For penal matters, we recommend such a policy, as far as the principle of proportionality remains satisfied.

5.2. Switching to magistrates' system only

As studied in section 4.2, switching from a dual judicial system to a statutory system would deter some criminals and incapacitate others. Such judicial switch would additionally suppress the restorative philosophy characterizing customary justice. Let us analyze separately these three effects in the light of the Kaldor criterion.

First, the suppression of the restorative process has only a redistributive impact. Therefore, its suppression, if considered as a separate policy, satisfies the Kaldor criterion.

Second, the deterrence of some crimes suppresses the social loss associated with these crimes. Therefore, the increase of deterrence, if considered as a separate policy, also satisfies the Kaldor criterion.

The last effect of a switch towards a statutory judicial system is to incapacitate additional criminals, more specifically those endowed with relatively high T_i^c who were not referred to magistrates' courts in the dual system. Let us distinguish four types of criminals. First, for hard criminals who are already deterred or referred to magistrates' courts in the dual system, the switch has no implication. Second, for criminals who are deterred following the switch, the only impact of the policy is to increase deterrence, which, as shown above, goes in favor of the Kaldor criterion. Third, for individuals whose crimes are not prosecuted anymore following the switch, the policy has no impact on criminality and imprisonment, and is thus only a matter of transfer. For these criminals, the switch has therefore no impact on the satisfaction of the Kaldor criterion. For the last category of criminals, who becomes prosecuted by magistrates' court after the switch, the analysis is less straightforward, as it requires to compare the social cost of imprisoning these criminals with the social gain due to their incapacitation. On the one hand, for crimes which social loss $T_i^c - T_i^b$ is low, such as civil matters or thefts, increasing the incapacitation goes in against of the Kaldor criterion because the cost of imprisonment is higher than the social loss associated to the crimes. On the other hand, for crimes which social loss $T_i^c - T_i^b$ is higher than the social cost of imprisonment, increasing incapacitation goes in favor of the Kaldor criterion.

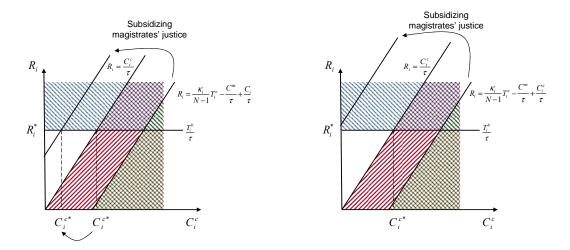
Switching to a magistrates' system is then a global policy that may have gainers (e.g. future victims) and losers (e.g. deterred criminals). Therefore, switching from a dual judicial system to a statutory justice system is a policy which is efficient in the sense of Kaldor only if the aggregate social gain from deterrence and incapacitation is higher than the aggregate social cost of imprisoning criminals who would have been judged by customary courts in the absence of the policy. We conclude that a switch from a dual judicial system to a magistrates' system only may or may not satisfy Kaldor criterion, and this depends on the social cost of imprisoning criminals and on the distribution of criminal opportunities. The Kaldor criterion does not allow us to derive clear-cut conclusions about the desirability of this policy option. This negative result is per se remarkable as it challenges the common assumption that western unique judicial systems are more effective than dual judicial systems.

5.3. Subsidization of magistrates' justice

The subsidization of magistrates' justice aims at minimizing the two above-mentioned externalities, and at increasing fairness in the customary judicial system. As does the switch to a magistrates' system only, the subsidization of magistrates' justice encourages the use of magistrates' courts, but in a less radical way. Contrary to the system switch, this policy may be adjusted, as both the size of the subsidies and the type of disputes benefiting from it have to be determined.

As shown in figure 9(a) and 9(b), subsidizing magistrates' justice may have two effects, depending on the size of the subsidy and the seriousness of the crime. First, if the subsidy is moderate, it minimizes rent-seeking behavior and bribery along the customary judicial process (figure 9(a)). This impact is only redistributive and therefore satisfies the Kaldor criterion. Second, if the subsidy is large, it encourages victims of serious crimes to refer their cases to the magistrates' justice, thus increasing deterrence and incapacitation (figure 9(b)). In figure 7(a), the subsidy would raise the diagonal line, therefore increasing the green and the white areas. On the one hand, as explained in section 5.2, the increase in deterrence suppresses the social loss associated to prevented

crimes, and therefore goes in favor of the Kaldor criterion. On the other hand, we showed that incapacitating criminals goes in favor of the Kaldor criterion only if the aggregate social gain from imprisoning more criminals is higher than the aggregated social cost of imprisonment.



(a) Low level of subsidy: rent-seeking is limited.

(b) High level of subsidy: victims prefer magistrates' justice for serious crimes.

Figure 9: Subsidizing magistrates' justice.

We therefore conclude that the subsidization of statutory justice is a policy which can be adjusted to fulfill the Kaldor criterion. We recommend this policy, and propose to adjust the subsidy such as to maximize the difference between the aggregate social gain from increased deterrence and incapacitation and the aggregate social cost of imprisoning additional criminals. It is worth noting that subsidizing statutory justice also improves fairness in customary justice, by diminishing rent-seeking and bribery for matters that are still referred before customary courts.

6. Concluding remarks

Our theory finds its roots in recent empirical evidence underpinning the strong relationship between institutions, property rights and economic development (see e.g. Acemoglu et al. (2005), Gennaioli and Rainer (2007) or La Porta et al. (2008)). The present analysis adopted a different approach by studying legal pluralism, a disregarded institution widespread in post-colonial Africa. More specifically, we studied how the coexistence of customary and statutory judicial systems affects the judicial process in post-colonial Africa, and thereby undermines economic development.

Customary and statutory judicial systems have coexisted in most Sub-Saharan African countries since colonial authorities superimposed the Western legal system on top of the pre-existing customary system. Today's situation is such that both systems compete with one another instead of reinforcing one another, resulting in an *"institutional shopping"* allowing conflict parties to choose a resolution institution. In this paper, we modeled such a dual judicial system, and studied the decisions of the victims when lodging a complaint, of the criminals when about to commit a crime and of the customary judges when fixing reparations and judicial costs. We have illustrated our arguments with statistical and anecdotal evidence from Uganda.

We identified two important problems emerging from this dual judicial system: rent-seeking and bribery. This result corroborates the fact that corruption is commonly reported in Uganda, where unofficial and unfair payments add up to increase the cost of justice. We also found that victims do not take into account the fact that referring cases to formal courts and incarcerating criminals have a positive externality on others, nor do they consider the threatening effect of imprisonment on crime deterrence. Most complaints are therefore lodged to customary justice, which provides immediate compensation in the form of reparations paid by convicted criminals. In reality, communities indeed count on customary justice to solve most of disputes, including serious crimes such as murder. Perpetrators of such offenses are therefore asked to pay reparations following restorative principles, and are not subject to imprisonment. Because of the light punishments proposed by restorative justice, individuals are too often tempted to engage in criminal behavior, which is consistent with the high prevalence of crime and civil disputes in Uganda. We conclude our analysis by recommending the subsidization of magistrates' justice. This policy has the potential to improve deterrence and incapacitation while minimizing the aggregated social cost imprisonment and criminality, and to promote fairness in customary justice.

Our study provides a better understanding of the problems rendering access to fair justice challenging in most African communities. Justice and the rule of law are however fundamental rights which have been shown to stimulate growth, by providing a better environment encouraging investments and enforcing property rights. Our study, together with Aldashev et al. (2012), paves the way for a new research agenda which seeks to understand legal pluralism and its consequences for African development. In a near future, we plan to extend this theoretical framework to approach more specific contexts, and to further test its predictions empirically.

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Institut de Recherches Économiques et Sociales Université catholique de Louvain

> Place Montesquieu, 3 1348 Louvain-la-Neuve, Belgique



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