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Modern Law as a Magnet to Reform Unfair Customs

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Abstract

The question of the role of statutory law in social environments permeated by custom and traditional norms is particularly important when the state law aims to correct social inequalities embedded in the custom. The conventional view is that modern law often fails to take root in custom-driven poor societies, especially when the formal law conflicts with the custom. Based on a simple analytical model, we argue that the apparently little use of the modern law and court system may conceal an effective indirect impact exerted through a "magnet" effect on the informal rulings of customary authorities. We highlight various factors impinging on this effect, and illustrate their operation with a number of examples drawn from the existing literature, as well as from the authors' own field experience.

Keywords: custom, statutory law, equity, women's rights, land tenure.
JEL codes: K40, O17, D63, D74.

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1 Introduction

Numerous studies show that modern law often fails to take root in poor countries, because local chieftains do not wish to enforce them, because people do not dare appeal to them for the fear of being sanctioned by "invisible" forces, or simply because of the belief that the custom is a 'natural' way of regulating community life. This holds especially true in matters of personal status such as marriage, divorce, and inheritance. Thus, in countries where the law forbids brideprice payments (e.g., Côte d'Ivoire, Gabon, Central African Republic), people continue to follow the custom as though this law did not exist (Nambo, 2001, p. 92; Ntampaka, 2004, pp. 128-30). The same applies to statutory provisions contained in new Family Codes that aim at protecting women against the practice of early marriages arranged by parents, against the customary practice of abrupt repudiation unaccompanied by the payment of a compensation, against the customary rule that prevents women from inheriting land from their parents, or against the customary practice of levirate whereby widows are married to a brother-in-law upon the death of their husband (Elosegui, 1999; Coulibaly, 2001; Ellis and ter Haar, 2004, pp. 142-49, 161-62; Colin, 2004, pp. 291-95; Boshab, 2007, pp. 140-54).

In some instances, realizing that the modern law remains unenforced, the state decides to modify it in such a way that it substantially coincides with the custom. For example, in Gabon and Senegal, the state has decided not to prohibit polygamous practices, but to make it an optional choice to be explicitly mentioned in the marriage contract (Article 177, Par. 6 of the Gabonese Civil Code). Moreover, the law provides that violation of the commitment to either monogamy or polygamy is a legitimate cause for divorce, and in Senegal, violation of the monogamous option can be invoked to declare the marriage void. However, the code's prescription has been continuously ignored by husbands who renege on their commitment to monogamy whenever it suits them. In Gabon (but not in Senegal), the reaction of the state has consisted of promulgating a new law (Law 18/89 of 30 December 1989) that allows for much more flexibility than the previous ruling: spouses are now authorized to rescind their commitment to monogamy in the course of marriage life (Nambo, 2001, pp. 235-36; Coulibaly, 2001, pp. 267-69).

Likewise, state provisions attempting to regulate the allocation of rural lands frequently run counter to traditional, informal rules and to the fact that such a prerogative belongs to customary authorities and not to the central state (see, e.g., Downs and Reyna, 1988; Lund, 1996, 1998; Lund and Hesseling, 1999; Platteau, 2000, Chaps. 3-4; Toulmin and Quan, 2000; Bassett and Crummey, 1993). Thus, laws which have been enacted in countries of Sub-Saharan Africa with the aim of preventing excessive fragmentation of rural lands –either through inheritance or land sale transactions–, have never been really enforced. The reason lies not in people's ignorance of the law as in their widespread belief that it runs counter to deeply entrenched customary principles (such as the right of all male children to receive a portion of the family land) and is therefore unlikely to be followed by others or to be backed by appropriate sanctions (André and Platteau, 1998). Thus, in Kenya, people's failure to register transactions is often ascribed to adherence to customary

tenure rules in registered areas. Customary law (such as subdivision of land among all the sons) "in fact continues to govern the way in which most people deal with their land, making tenure rights ambiguous. The land law failed to gain popular understanding or acceptance, individuals continued to convey rights to land according to customary law, and a gap developed between the control of rights as reflected in the land register and control of land rights as recognized by most local communities" (Barrows and Roth, 1989, p. 7). Likewise, in many developing countries, people are accustomed to view locally available water as a "free" good to which community members are entitled. Any state regulation imposing a price for water is considered illegitimate and villagers do their utmost to boycott it.

Conflicts between the modern and the customary laws go beyond matters of personal status and land tenure. In the sphere of criminal law, blatant discrepancies may arise between written legal provisions and informal rules. The statute of limitations is thus a fundamental principle that can be invoked by a defendant (see, e.g., Article 24 of the 30 June 1940 decree of the Criminal Code of the Republic of Congo). Yet, under the customary law, no such statute is admissible because "however long the time elapsed, the author of an offence, as soon as identified, must pay for his (her) infringement which has harmed social cohesion. No amount of time elapsed since the offence was committed can excuse or absolve the offender under the customary system of criminal law". The fact of the matter is that the author of an offence is never considered as a pariah under this system. Because of his (her) act, the erstwhile social equilibrium has been disrupted. It is therefore necessary to restore it not through a mechanism of exclusion but through a process of reconciliation so that nobody loses face and smooth social relationships can be resumed between all the collective entities involved (Boshab, 2007, pp. 165-66 -our translation).

The above accounts suggest that whenever a strong custom guides human behavior, state intervention remains ineffective. A worse outcome can even be obtained when the rural elite use their informational advantage and their leverage to manoeuvre multiple legal frameworks for their own benefit (Moore, 1978; Mackenzie, 1996; Stamm, 1998, p. 127; Boshab, 2007, p. 161). A striking example of this manipulation concerns the application of laws concerning formal land rights or titles. Experience with land registration and titling schemes has shown that well-informed, powerful and educated individuals often succeed in manipulating the customary law to claim large tracts of land that they then hasten to register under the freehold system of tenure (Doornbos, 1975, pp. 60-73; Glazier, 1985, p. 231; Barrows and Roth, 1989, p. 8; Berry, 1993; Platteau, 2000, pp. 165-68, Jacoby and Minten, forthcoming).

In the light of the aforementioned difficulties, it seems tempting to give up all efforts to suppress unfair customs through counteracting legislations. It is true that the custom is far from being static and continuously evolves under the pressure of a changing environment. However, if customary norms sometimes adjust in an efficiency-enhancing direction (e.g. such as happens when land tenure rules evolve toward increased individualization as land becomes more scarce with population growth and market integration), there is

absolutely no guarantee that custom becomes more equitable as time goes by. How could then the state use formal legal instruments to defend the rights of minorities and marginal groups when customary norms favor the interests of traditional elites?

There are two approaches to this problem. The first builds on the fact that solutions imposed by legislative fiat tend to have dismal results because they inevitably create misunderstandings, uncertainty, and disputes. IThere, one way of reforming customary rules is by allowing them to evolve and modernize themselves through the common law process. This means that the law gradually assimilates custom through successive court decisions rather than through one-shot acts of the Parliament. For instance, in the case of Papua New Guinea, Cooter (1991) discusses how the Land Disputes Settlement Act has provided a legal ground and a system of mediators and courts to resolve disputes involving land under customary ownership. The crucial point is that the land courts are bound only by the above act and custom. What Cooter argues is that the evolution of court-made property law is driven by this system because "land disputes requiring the refinement of property rights reach the courts with sufficient frequency to support the common law process". One of the most challenging tasks facing the land courts is to find general principles behind the diversity of local customary practice and usage, and to make explicit authoriative statements on that basis (Cooter, 1991, pp.781-799).

In the second approach, by contrast, the modern law is used as a magnet designed to pull the custom in a direction more favorable to minorities and marginal groups. The underlying mechanism is simple: the new law offers the poors an exit option which increases their bargaining power at the level of the community. Such a possibility is illustrated by the observation sometimes made by social scientists. For instance, the anthropologist Lavigne Delville says that "local landholding systems are not the expression of an unchanging 'traditional law', but the fruit of a process of social change, which incorporates the effects of national legislation" (Lavigne Delville, 2000, p. 114). Rao (2007) states that legal support effectively adds authority to women's voice since their land claims are thereby strengthened, even though they do not necessarily resort to the formal court (Rao, 2007, p. 312).

Unlike the first approach where the modern law evolves from the adaptation of the custom within the framework of new institutions devised by the state, the second approach aims at compelling the custom to change under the threat of appeals to the modern court by plaintiffs belonging to minorities or marginal groups. When the latter route is followed, interestingly, it is possible that the statutory law is not appealed to and no case comes to the formal court because the potential plaintiffs are satisfied by the judgement obtained in the informal domain under the pressure of the formal legal system. In other words, one cannot infer from the low activity of modern courts that the statutory law is ineffectual.

In this paper, we focus on the second approach. Using a simple formal model of legal dualism, we show that when the statutory law aims at countering a pro-elite custom, the magnet effect can occur under

certain conditions. The three first subsections of Section 2 present the structure of the model and derive the equilibria, while the rest of the section discuss the effects of changes in exogenous factors affecting the equilibrium outcome. In Section 3, a simple typology suggested by the model is described, which then allows us to discuss a number of concrete examples drawn from the literature dealing with women's rights and land tenure in poor countries. We contrast different types of situations including that in which the magnet effect is at work, and single out the critical forces behind the effect. Section 4 summarizes the main findings of the paper and suggests future research directions.

2 A Model of Legal Dualism

2.1 A stylized framework of analysis

We consider a society endowed with two laws, the formal statutory law and the informal customary law. The custom is enforced, at the level of the community, by a traditional authority called the informal judge. This is not necessarily a single individual but may be a council composed of esteemed members of the community.(e.g., elders or lineage heads). The judgement pronounced by the informal judge embodies the custom prevailing in the local community. The custom is not neutral but represents the interests of a fraction of the community which we loosely label the "elite". We define as "commoners", the members of the community who do not belong to the elite, and whose interest are ignored by the custom. They include marginal or minority groups, such as women, low-caste people, strangers, members of subordinated ethnic groups, etc. When an "elite" member and a "commoner" are involved in a dispute, they consult with the informal judge and hear his judgement. Since the judgement is biased, the "commoner" will be mostly dissatisfied. He may then either accept the customary decision or reject it by making recourse to the formal court. In deciding to appeal to the formal court, he weights the expected benefit from a more favourable formal court decision against the certain cost that includes two main components. The first component includes direct transaction costs that have to be incurred to access the formal court (administrative expenses and fees, transportation costs, the opportunity cost of time spent in the formal court, the cost of access to information, etc). The second component, corresponds to the indirect cost of social exclusion from community life (henceforth designated as a "social exchange game"). In other words, everyone who challenges a customary verdict is ostracized by other members of the community. This implies that the benefits from participating in local networks and events will be irremediably lost. [1]

In so far as the collective benefits of community life are increasing in the number of participants, there

[1] Our model may also apply to a caste system such as that found in India. It just requires that we understand the customary law as representing the interests of the highest caste(s). Lower castes may also have their own customs but, when a conflict arises between one of their members and a member belonging to the highest caste(s), the (informal) law of the latter outweighs that of the former. It is only by turning to the formal law system that lower caste members can hope to win against high caste members. Moreover, the social exchange game featured in our model corresponds to the sphere of relationships between high and low caste members.

will be a cost of excluding a deviant participant. Why would members, then, agree to punish the deviant? One plausible explanation is the willingness of the members of the community to maintain the prestige of the local authority on which they depend not only for the resolution of conflicts but also for a variety of other functions, such as representation of the community in negotiations with outside agents. As long as the loss to the community from a weakening of the authority of the informal judge exceeds that of excluding a member of the community, social exclusion will be a credible threat, and actually implemented following any appeal to the formal law. Moreover, as we know from experimental economics, people may agree to punish a non-cooperative individual even at a positive cost to themselves if they thereby relieve a feeling of outrage or anger (Fehr and Falk, 2002; Fehr, Fischbacher and Gachter, 2002; Fehr and Gachter, 2000; Fehr and Rockenbach, 2003). In some situations, such as when a customary norm is violated, deviants are viewed as mavericks threatening social order and harmony. Emotions then tend to play an important role and override strictly rational calculations (Frank, 1988).

The statutory law is enforced by a judge who operates in the framework of a court. The modern judge's verdict is not completely predictable, even assuming, as we do in the following exercise, that people have perfect information about the statutory law (and sufficient trust in its enforceability). There are three main reasons why the verdict pronounced by the formal judge may not be completely predictable. First, the formal judge may not know well the local conditions. He then needs to rely on the statements made by disputants and witnesses to gain a proper understanding of the circumstances of the case. Since these statements are likely to be diverging, he will have to exercise his own sense of judgement and the verdict pronounced by him may deviate from the ruling expected by the claimant on the basis of his reading of the statutory law. Second, the judge may have not one but several bodies of law available to him to ground his decision. This is especially true in countries where religious laws coexist with the civil law, such as when the judge is allowed to refer to the *sharia* when he deals with a case involving Muslim disputants. In deciding which law should apply to a particular case, the formal judge tends to base his judgement on the "mode of life" of the claimants. Thus, in a number of African countries, when they deal with an issue of inheritance, judges may apply the "mode of life test" whereby the ethnicity and religious affiliation of the heir, as well as the intent of the deceased, are taken into account. Uncertainty clearly inheres in the above situation since it is rather easy for claimants to distort information regarding "the mode of life" of the deceased so as to obtain the most favourable judgement before the formal court (see Longway, 1999, as cited by Hilhorst, 2000, p.187; Ntampaka, 2004).

Third, even in cases where there is a unique body of statutory laws, interpretation problems may create uncertainty (the subjectivity of the judge). The flexibility of the formal law can thus be used by the judge to gain privileges for himself or to make it more congruent with his own preferences and values. The former possibility is illustrated by the case of the Forestry Law in Cameroon where the overriding consideration

of the bureaucrats in charge of the law is to interpret it in such a way as to vest themselves with power and privilege (Egbe, forthcoming). An example of the latter possibility is the new Family Code of Morocco which contains provisions much more favourable to women than the old one based on a combination of the Islamic and customary laws. Factual evidence nevertheless shows that the new law is less strictly applied by judges with more conservative inclinations (personal field observations of Imane Chaara).

2.2 Setup of the model

Consider a one-shot game involving an informal judge, M, and two individuals, an elite member (E) and a commoner (C). There is a dispute between E and C that is first mediated by the informal judge. Once the informal judge has given his verdict, the disputants face a binary choice: they can accept the verdict of the informal judge or appeal the verdict at a court of formal law[2]. Once the dispute is resolved, the players participate in a social exchange game.

Formally, the timing within the game is as follows: (1) M chooses verdict v^M; after hearing this verdict, (2) C decides whether to appeal to the formal court ; if he chooses to do so, the community excludes him, the social game without C is played, and the payoffs of all parties are determined; otherwise (3) E decides whether to appeal to the formal court ; if he chooses it, the community excludes him, the social game without E is played, and the payoffs of all parties are determined; otherwise (4) both parties accept the verdict v^M, the social game is played without exclusion and the payoffs of all parties are determined.[3]

We represent the range of possible verdicts of the case by the interval $[0, 1]$, where a verdict of 0 is most favourable to the elite member and a verdict of 1 is most favourable to the commoner. The formal law is represented by a specific verdict, $v^F \sim U\left[f - \frac{1}{2\phi}, f + \frac{1}{2\phi}\right]$ which is a stochastic variable with mean f and concentration parameter ϕ (a higher value of ϕ indicates a lower variance of the verdict). We assume that f and ϕ are such that the bounds of the distribution fall strictly within the interval $[0, 1]$.

When the case is brought to the informal judge, he has to choose a verdict $v^M \in [0, 1]$. Therefore, this interval is his strategy set. The informal judge derives a positive (constant) utility, measured in terms of social status and prestige, whenever his verdict is accepted without appeal. Moreover, he has a 'preferred' verdict $I \in [0, 1]$, such that his welfare is decreasing in the distance between the actual verdict and the

[2] Alternatively, we may assume that the informal judge initially mediates the case only if his mediation is requested by both parties. This would enable a disputant to strategically bypass the informal court but it implies the somewhat strong informal assumption that the disputants have knowledge about the preferences of the informal judge and can thus anticipate his judgement.

[3] The issue of the timing of events turns out to be critical. Indeed, if the verdict of the informal judge is implemented immediately and he has therefore full discretion over the verdict, his decision cannot in fact be influenced by the existence of the formal law. However, it is highly unrealistic to assume that when a formal court exists, parties may not appeal to it if they are disappointed by the verdict of the informal judge. We will therefore consider the alternative timing of events in which either party may appeal to the formal court if he is not satisfied with the verdict of the informal judge. This possibility can act as a restraint on the actions of the informal judge, and in consequence, he can commit to giving a verdict that is not too much at variance with that prescribed by the formal court. Note that the order of (2) and (3) in the timing of events does not matter since either C or E has an incentive to appeal to the formal court following any specific verdict by the informal judge.

preferred verdict. His preferred verdict is closer to the interests of the elite group in the community.

The social exchange game is modelled in the following manner. C, E, and M jointly produce an excludable public good. All (non-excluded) players enjoy the full benefit of the good and we assume that the community fully resolves the free-rider problem. Let us denote by A the full set of players, A_E the set with E excluded, and A_C the set with C excluded. The net benefit of the social game is noted $Q(Z)$ where Z stands for the set of non-excluded players. Obviously, we assume that $Q(Z) > 0$ for any Z and any member of the community. Moreover, the net benefit from the public good for a stand-alone player is assumed to be zero, and the net benefit for the informal judge in a bigger coalition is always higher than in a smaller coalition (this is necessary to avoid strategic renounciation of the case by the informal judge).

Thus, M's utility is

$$\begin{aligned} u^M\left(v^M\right) &= X + Q(A) - g\left(v^M - I\right) \text{ if his verdict is accepted} \\ &= Q(A_E) \text{ if } E \text{ challenges his verdict} \\ &= Q(A_C) \text{ if } C \text{ challenges his verdict} \end{aligned}$$

where X is the prestige in utility terms that the judge acquires from having his verdict unchallenged, and $g(v^M - I)$ denotes his loss function from choosing a verdict that is different from his preferred one. Note that the first and the second derivatives of this function are positive, meaning that the utility loss of the informal judge increases at an increasing rate when the actual judgement differs more from the custom (that is when the distance between v^M and I increases).

The preferences over possible verdicts are given by $u^E(1-v)$ for the elite type, and by $u^C(v)$ for the common type, and $u^E(.)$ and $u^C(.)$ are increasing and concave. The concavity of the function ensures that the individuals are averse to the uncertainty of the verdict in the formal court. In addition, there is a transaction cost, represented by t^E and t^C respectively for the two types, if either party appeals to the formal court rather than the informal court.

Now, we can write the utility for each type of individual. For the elite type, the expected utility from choosing the formal court equals $Eu^E\left(1-v^F\right) - t^E$, the utility from choosing the informal court (without C going to the formal court) equals $u^E\left(1-v^M\right) + Q(A)$, while the utility from choosing the informal court (with C going to the formal court) equals $Eu^E\left(1-v^F\right) + Q(A_C)$.

Similarly, the expected utility to the common type from choosing the formal court equals $Eu^C\left(v^F\right) - t^C$, the utility from choosing the informal court (without E going to the formal court) equals $u^C\left(v^M\right) + Q(A)$, while utility from choosing the informal court (with E going to the formal court) equals $Eu^C\left(v^F\right) + Q(A_E)$.

2.3 Equilibria

We can proceed to determine the equilibria of the game using backward induction. In terms of the timing described above, agent E appeals to the formal court at step (3) if and only if the following condition holds:

$$Eu^E\left(1-v^F\right)-t^E \geq u^E\left(1-v^M\right)+Q(A) \tag{1}$$

Similarly, agent C would appeal to the formal court at step (2) if and only if the following condition holds:

$$Eu^C\left(v^F\right)-t^C \geq u^C\left(v^M\right)+Q(A) \tag{2}$$

We denote by $\overline{I}$ the value of v^M for which condition (1) is satisfied with equality, and similarly by $\underline{I}$ the value for which (2) is satisfied with equality. In words, $\overline{I}$ is the informal judgement that makes the elite member just indifferent between the customary verdict and the expected benefit of going to the modern court. And $\underline{I}$ is the judgement that makes the commoner just indifferent between the same. We can then assert that a verdict v^M by the informal judge at step 1 of the game is unopposed by both parties if and only if it falls within the interval $\left[\underline{I},\overline{I}\right]$, which corresponds to the domain where both parties value the informal judgement at least as much as the (expected) formal verdict.

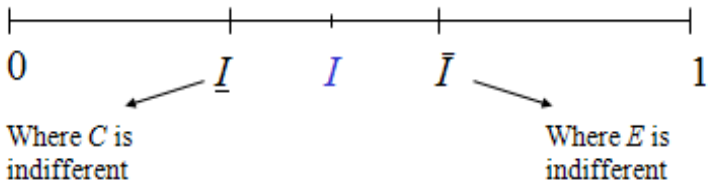

Figure 1: The custom is acceptable to both elite and non elite members.

Clearly, if $I \in \left[\underline{I},\overline{I}\right]$, the judge chooses his preferred verdict I, since both parties would be content with such a verdict and there will be no further repercussions on the community (see Figure 1). However, if $I \notin \left[\underline{I},\overline{I}\right]$, the informal judge faces a choice between returning a different verdict which satisfies both parties but does not correspond to his ideal and allowing appeal to the formal court by the dissatisfied party, and retribution by other community members. There are two possible cases: (a) $I < \underline{I}$ and (b) $I > \overline{I}$. Since we are interested in situations where the custom is favorable to the elite and the law is designed to redress the inequality, we focus on case (a): the preferred judgement of the informal authority, which stands for the custom, is so unfavorable to the common people that, given the alternative option, they are willing to appeal to the modern court and demand the application of the statutory law (see Figure 2).

Figure 2: The custom is unacceptable to the common people.

In this case, there exists a critical verdict value at which the informal judge's benefit from letting the case go to the formal court is just equal to the benefit of keeping the case within the purview of the customary system, which benefit includes the amount of social prestige associated with having a judgement accepted by both disputants without challenge. This critical value, $\bar{v}$, satisfies the equation

$$X + Q(A) - g(\bar{v} - I) = Q(A_C) \tag{3}$$

There are now two cases to be considered: $\underline{I} > \bar{v}$ and $\underline{I} < \bar{v}$. When $\underline{I} > \bar{v}$, it is too costly for the informal judge to accommodate the commoner because he would have to opt for a verdict that is too distant from his preferred verdict to do so. Therefore, he abandons the case to the formal court, via an appeal triggered by the commoner. Consequently, the judgement that will prevail is the verdict of the formal judge, v^F (see Figure 3).

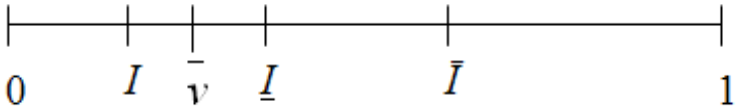

Figure 3: The commoner appeals to the formal court.

If $\underline{I} < \bar{v}$, a region exists wherein both the informal judge and the commoner may agree to be located: the greatest concession this judge is ready to make toward meeting the interests of the commoner exceeds the minimum judgement value required by the latter to stay within the customary jurisdiction. The informal judge, in this case, chooses the minimum judgement value, $\underline{I}$ (see Figure 4). In other words, he minimizes the concession that he has to make to maintain the case within his own ambit. Yet, by so doing, he actually allows the custom to evolve in a way that takes better account of the interests of the common people in the community: the value of the informal judgement has been raised from I, the erstwhile custom, to $\underline{I}$.

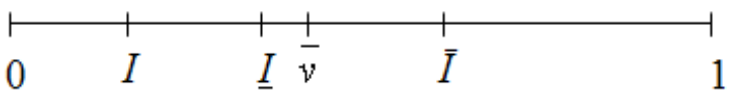

Figure 4: The informal judge adjusts the custom.

We are presently able to characterize the equilibria more precisely. The equilibrium outcome of the game is:

(i) if $I \in [\underline{I}, \overline{I}]$, the informal judge chooses I, and the verdict goes unchallenged. The payoff of the judge is $u^M(I) = X + Q(A)$. The payoff of the elite is $u^E(1-I) + Q(A)$. The payoff of the commoner is $u^C(I) + Q(A)$.

(ii) if $I < \underline{I} \leq \bar{v}$, the informal judge chooses $\underline{I}$, and the verdict goes unchallenged. The payoff of the judge is $X + Q(A) - g(\underline{I} - I)$. The payoff of the elite is $u^E(1-\underline{I}) + Q(A)$. The payoff of the commoner is $u^C(\underline{I}) + Q(A)$.

(iii) if $\bar{v} < \underline{I}$, the informal judge chooses I, the commoner chooses to appeal to the formal law and the judgement is v^F. The payoff of the judge is $Q(A_C)$. The payoff of the elite is $Eu^E\left(1-v^F\right) + Q(A_C)$. The payoff of the commoner is $Eu^C\left(v^F\right) - t^C$.

Situation (i) corresponds to the benchmark state in which the custom remains unaltered and the elite members of the community have their own way. The most interesting state for the purpose of this paper is (ii) since the informal judge is bending his decision in favour of the common people under the impact of the formal law: the custom shifts in a more equitable direction.

2.4 Predicting changes in the custom

The next question is how the indifference thresholds $\underline{I}$ and $\overline{I}$ respond to changes in the parameters of the model. These parameters are: the mean (f) and the dispersion (the inverse of ϕ) of the verdict in the formal court, which stand for the extent to which the formal law promotes the interests of the non-elite groups, and the predictability of the verdict based on it, respectively; the costs of accessing the formal court (t^C and t^E); and the net benefit of the social game ($Q(Z)$).

Enacting a law more favorable to non-elite groups is measured in our model by an increase in the mean value of the verdict returned by the modern judge (f). An increase in its predictability corresponds to a decrease in its variance which is measured by an increase in ϕ. Both changes have the effect of raising the

lower threshold $\underline{I}$, as indicated in Figures 5 and 6. As for the higher threshold $\overline{I}$, it increases as a result of a higher f, and decreases as a result of a higher ϕ (see Appendix A1 for the proof).

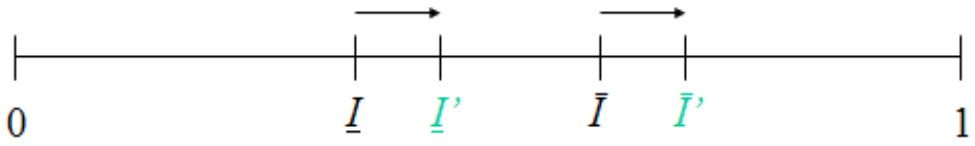

Figure 5: Effect of enacting a more equitable law.

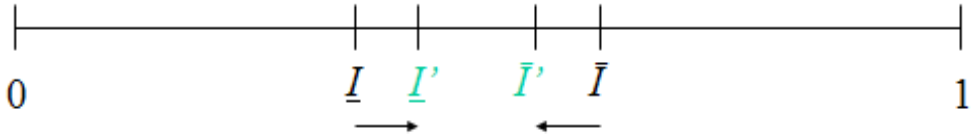

Figure 6: Effect of increasing the predictability of the law.

Different effects can occur depending on the initial situation and the magnitude of the increase in $\underline{I}$. Let us first consider the case in wich the custom initially prevails (see Figure 1). If the increase in $\underline{I}$ is comparatively small, the preferred judgement, I, continues to fall in the interval $[\underline{I}, \overline{I}]$, and, therefore, the custom persists. If, on the other hand, this increase is large enough to cause $\underline{I}$ to overstep I, a new situation is created which corresponds to that depicted in Figure 2. Following the reasoning expounded in the previous subsection, it is apparent that the final outcome will depend on whether $\underline{I}$ increases so much as to exceed the informal judge's indifference threshold, $\bar{v}$, or does not. If it does not, the informal judgement becomes the new value of $\underline{I}$, $\underline{I}'$ which describes a move favorable to the common people (see Figure 7).

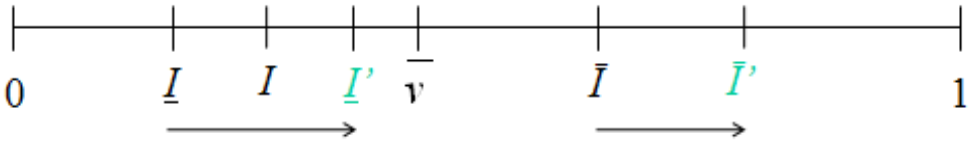

Figure 7: A more equitable law causes a pro-commoner shift in the custom.

If it does, which implies that the modern law represents a sufficiently radical departure from the custom, no shift in the custom can satisfy both the customary authority and the commoner and, as a result, the latter appeals to the modern court (see Figure 8). In the latter instance, the custom remains unchanged while in

the former one, it has moved under the "magnet" effect produced by the statutory law. To sum up, there are three different regions. When the modern law does not differ much from the custom, the latter is unlikely to change and no commoner undertakes to challenge it. When the modern law represent a moderate move away from the custom, the latter adjusts to this change and, again, no commoner challenges the (modified) custom: the "magnet" effect operates. Finally, when the modern law radically departs from the custom, the commoners prefer to defend their rights before the formal court and the custom is unchanged: a magnet cannot attract from a great distance.

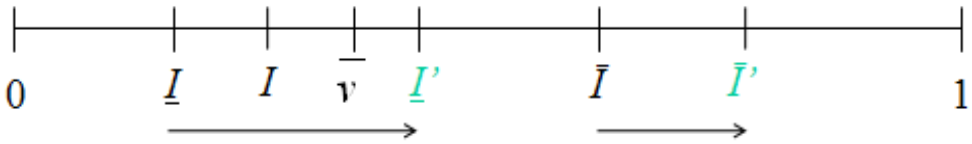

Figure 8: A more equitable law drives common people to appeal to the formal court: the custom does not change.

Note that if, the enactement of a new law in favor of common people entails greater uncertainty, we have two effects running into opposite directions and the new equilibrium outcome will depend on which effect is stronger. As a matter of fact, a more equitable law shifts $\underline{I}$ rightwards while a larger variability of the formal court's verdict shifts $\underline{I}$ leftwards. The net effect of these two simultaneous changes is a priori indeterminate.

Let us now examine the effect of a change in the cost of access to the formal court. The result is the following: an increase in t^C, the cost of access to the formal court for the commoner, decreases his threshold verdict $\underline{I}$, and vice-versa. Similarly, an increase in t^E, the cost of access to the formal court for the elite member, increases his threshold verdict $\overline{I}$, and vice-versa. It is evident that, formally, easing access to the modern court for commoners is equivalent to enacting a law more favorable to them: the above reasoning regarding the possible impacts of a higher threshold $\underline{I}$ therefore applies. The problem of corruption of

Figure 9: The effect of an increase in the cost of access to the formal court or an increase in the net benefit of the social game.

the judiciary can posibly be seen in the light of such transaction cost considerations. A natural way of incorporating this problem into our framework is to include bribe payments in the transaction costs. This

has the effect of lowering the commoner's threshold, $\underline{I}$, and raising the elite's threshold, $\overline{I}$, so that it becomes still more likely that I falls into the interval $[\underline{I}, \overline{I}]$ or, if I remains smaller than $\underline{I}$, that $\underline{I}$ is below $\bar{v}$. In either case, the outcome is unfavorable to the commoners (see Figure 10). The same conclusion obtains if we view the effect of corruption as being asymmetric. For example, if the rich or the privileged can more easily exert influence on a statutory judge through personal connections, the effect of this situation can be represented by a comparatively high cost t^C. The idea is that, to compensate this advantage of the elite, commoners have to offer bribes to the judge, which increases their cost of access to the court. The effect is then to lower $\underline{I}$ while $\overline{I}$ remains unchanged.

Figure 10: The unfavorable commoners'outcome when cost of access to modern court is high.

Finally, there is the effect arising from a change in the net benefit of the social game. If this benefit increases, the interval $[\underline{I}, \overline{I}]$ in which both parties are satisfied with the verdict of the informal judge is expanded (see Figure 9). Since a higher benefit of the social game implies a higher opportunity cost of appealing to the modern court, the probability that decisions by the informal judge prevail is higher than before. And vice-versa: if benefits from community life diminish, say as a result of increased economic and geographical mobility, the interval $[\underline{I}, \overline{I}]$ is narrowed down. As a consequence, the threshold value $\bar{v}$ may no longer be in the interval (as in Figure 8), prompting common people to go to the modern court. Yet, if the shift in $\underline{I}$ is such that $\bar{v}$ is maintained in the interval $[\underline{I}, \overline{I}]$ but I is not contained in it (see Figure 7), the effect of increased mobility is to trigger a transformation of the custom in the direction pointed by the statutory law.

Another interesting question is how the threshold value $\bar{v}$ is affected by changes in the parameters of the model, more precisely by variations in X, the prestige associated with mediating a case within the informal juridiction, and in the gains that the customary authority derives from the participation of the common people in the social game. The results are as follows: an increase in X, and in the net gain for the informal judge of keeping the commoner in the social game, have the effect of raising $\bar{v}$, making the informal judge more willing to accommodate the interests of the commoners (see Figure 11 and Appendix A2 for the proof).

The intuition behind these results is again straightforward. There are two factors that influence the informal judge's payoff from keeping the case in the informal court. First, the informal judge faces a trade-

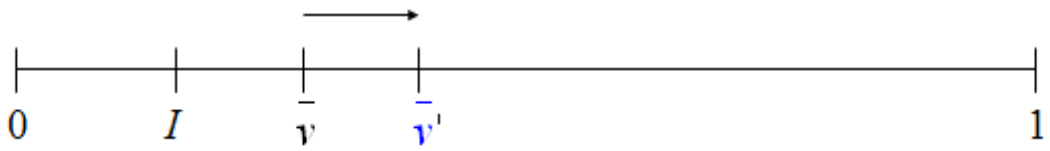

Figure 11: The effect of an increase in the informal judge's prestige, and in the net gain for him of keeping the commoner in the social game.

off between the cost of deviating from his preferred verdict and the loss in terms of prestige from having the case judged in the formal court. When X is larger, the informal judge is willing to propose a solution further away from his preferred verdict. More rigorously, if $\bar{v} < \underline{I}$ and $I < \underline{I}$ in the initial situation, and if the increase in X is significant enough to cause $\bar{v}$ to overstep $\underline{I}$, the informal judge becomes ready to adapt his ruling so as to keep the poor claimant within the customary jurisdiction (see Figure 12).

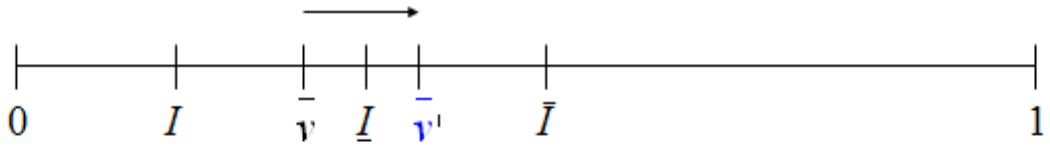

Figure 12: The informal judge adapts the custom in a pro-commoner direction.

Moreover, there is a loss to the informal judge whenever either party is excluded from the community. As such a cost of excluding someone from the social game becomes higher, the informal judge is again willing to deviate further from his preferred verdict to avoid this exclusion.

2.5 Two remarks

Our first remark is: what happens when the assumption that all disputes have identical stakes is relaxed? When there is heterogeneity in the severity of disputes, implying that the extent to which individuals care about the outcome of a settlement varies with the type of dispute, the more severe it is the more likely it will end up being judged in the formal court. The intuition is clear: when the dispute is related to a large amount of property and the formal court is likely to produce a more favourable verdict, a party may be willing to appeal to it even if the administrative and social costs are high. Formally, to express this idea, we characterise any dispute according to a parameter $\gamma \in [1, \gamma_{\max}]$ and rewrite the utilities obtained by the commoner and the elite member from a specific verdict v as $\gamma u^C(v)$ and $\gamma u^E(1-v)$, respectively. It is then easy to show that the interval of verdicts that would attract both parties to the informal court is smaller

for more critical disputes. Intuitively, an individual is more willing to bear the cost of accessing the formal court when the stake of the verdict is higher (see Appendix B1 for the proof).

It is also possible to show that more disputes will be resolved in the formal court when the statutory law is very different from the custom. Formally, if $\bar{\gamma}$ is the threshold value of the severity of disputes such that all disputes for which $\gamma > \bar{\gamma}$ go to the formal court while all those for which $\gamma < \bar{\gamma}$ are resolved by the informal judge, as f, the (mean value of the) legal verdict, moves away from I, the custom-based judgement, the threshold $\bar{\gamma}$ decreases (see Appendix B2 for the proof).

The second remark is more substantial, and is based on a recognation of the fact that our model has been greatly simplified to highlight the mechanics behind the central argument in the most vivid manner. One of its main shortcomings is reflected in the clear-cut equilibrium outcomes arrived at: the commoners are subject to an unchanged custom, they witness an adjustment of the custom in their favor, or they appeal to the modern court. In this setup, there is no possibility of equilibria in which a fraction of the village commoners appeal to the modern court while the others remain within the ambit of the customary jurisdiction. This more realistic outcome obtains as soon as we allow for some heterogeneity in the population of the commoners, for instance, by assuming that they face different exit opportunities[4]. As intuition suggests, those with the best exit opportunities will be the first to avail themselves of the possibility of using the modern court while those with the worst exit opportunities will be the last ones to leave the native community. In such a framework, it is particularly unrealistic to assume that the social prestige obtained by the customary authority from settling a dispute is a constant that does not vary with the number of people staying within the community. It is more pertinent to assume that the marginal benefit in terms of prestige increases as the size of the community decreases.

Since the model resulting from these new, more satisfactory assumptions is more complex, and the proofs leading to the results more cumbersome, we have reserved it for a companion paper to which the interested reader may refer (Aldashev et al., 2008). In the context of the present paper, the following results obtained from the more sophisticated version of our model are worth pointing out. When the modern law is made more favorable to marginal or minority groups, when the verdict of the modern law is made more predictable, when the cost of access to it for these groups is smaller or when the cost of social ostracization in the community is lowered, the custom will always become more equitable. Yet, this positive evolution will not prevent an increasing proportion of the commoners from appealing to the formal court. In other words, the above changes, the enactement of a more equitable modern law in particular, always trigger a "magnet" effect that pulls the custom in the direction pointed by the statutory law. At the same time, however, the latter is activated at least by a few commoners who prefer to opt out of the traditional legal order.

In the companion paper, we also show that a more radical statutory law does not necessarily increase

[4]Heterogeneity in the elite population is irrelevant as it will have no effect on the equilibrium outcomes. In fact, as they are favored by the custom, the elite members have no incentive to appeal to the formal court.

the aggregate welfare of the disadvantaged sections of the population: moderate legal reforms are sometimes more effective than bold steps from the standpoint of these social categories.

3 Illustrations

As suggested by our model of legal dualism, three situations can arise when a statutory law is enacted with the aim of protecting the rights of the marginal groups or minorities whose interests are harmed by the customary norms. First, the custom may be unaffected and the members of those groups stay within the ambit of their native community. In this case, the modern legislation produces no impact (case (i) in Table 1). Second, the custom is unaffected, yet, the commoners seek recourse from modern legal authorities. The modern law is activated and its beneficial effect is fully apparent (case (ii) in Table 1). Third, the custom evolves in the direction pointed by the law, which is not activated by plaintiffs belonging to minorities or marginal groups. The beneficial effect of the statute is not quite apparent as it operates in a roundabout manner: a "magnet" effect is at work (case (iii) in Table 1). A fourth case in which the law is activated and the custom changes in a direction more favourable to minorities and marginal groups is presented in Table 1 (case (iv)). Note that this case is impossible in the static model. In the framework of our dynamic model, however, this outcome always occurs since the effect of the modern law is to attract a certain proportion of the commoners to the court whereas the others remain within the ambit of the customary jurisdiction. In other words, outcomes (i), (ii) and (iii) do not exist when we use the dynamic rather than the static model.

	The modern law is not activated	The modern law is activated
The custom does not change	(i) The modern law has no impact.	(ii) The modern law directly produces the intended effect.
The custom does change	(iii) The modern law produces only a "magnet" effect on the custom.	(iv) The modern law produces its effect both directly and indirectly.

Table 1: The different possible situations arising from the enactement of a new statutory law.

In the following, the various situations described above are illustrated with the help of case-study evidence in matters of personal status and land rights. Moreover, we provide examples to show how changes in some parameters of our model can cause a shift from one outcome to another.

Women's inheritance rights

According to tribal customs, in patriarchal societies in particular, daughters are not entitled to inherit any

share of the family land. The underlying motive is the fear that ancestral lands may fall into stranger hands or be excessively split, especially when marriage practices follow the rule of virilocal exogamy (Goody, 1976). In Jharkhand, a tribal state in India, a law known as the Santal Pargana Tenancy Act (1949) recognizes women's inheritance rights through marriage to a resident son-in-law (*gharjawae*), but only in the absence of a male heir in the woman's family (Rao, 2007). This law was intended to protect women in this situation against harassment and acts of violence by male kin eager to appropriate the land which has fallen into their hands. Registering a *gharjawae* marriage with the authorities affords a woman an effective protection. Two lessons from this experience deserve special attention. First, as a consequence of the law, customary authorities (village elders) have modified the custom in a direction favorable to women, thus manifesting the operation of a "magnet" effect. It is apparently because of prestige reasons - they want "to present themselves as fair and just" - that they have adopted a more pro-women stance. Second, the new law does not represent a radical departure from the existing practice, and this appears to be an important reason why it has had an impact on the custom.[5] "The SPTA [Santal Pargana Tenancy Act] represented the *gharjawae* as an adopted son-in-law who inherits the land, rather than the daughter", and it is thus far away from the Hindu Succession Act (1956) which provides equal inheritance rights to sons and daughters (Rao 2007, pp. 310-311) (Bear in mind that, in our model, too drastic a move of the modern law in favor of marginal groups would drive members of these groups to appeal to the modern court nevertheless leaving the custom unchanged - see outcome (ii) in Table 1).

A situation of legal pluralism relating to women's inheritance rights also exists in Muslim West Africa. Customary law provides that women do not inherit land, the Quran explicitly demands that women inherit half the share of their brothers, and the statutory law, inspired by the Napoleonic Code, prescribes equal inheritance shares for men and women (the testator may write down a will but his ability to modify the rule is limited). In the Senegal River Valley, the custom was applied strictly till recently. Women never thought of invoking the Islamic law to advance their interests lest they should antagonize their male relatives and be compelled to forsake key social protections that they have traditionally enjoyed. Under the customary land tenure system, indeed, women are insured against various contingencies, in particular the prospects of separation/divorce, widowhood, and unwed motherhood. In such circumstances, they typically enjoy the right to return to their father's land where they are allowed to work and subsist till they find a new husband (Cooper, 1997, pp. 62-63). In terms of our model, this means that the cost of appealing to the Islamic law (considered here as the formal law) and of resorting to the local marabout (considered here as the formal judge) was too high in terms of (insurance) benefits foregone for the formal channel to confer bargaining

[5] Interestingly, this Act was inspired by a practice that evolved in the area itself. However, under conditions of growing scarcity of land, the practice of the *gharjawae* marriage was increasingly contested by male kin who tended to bend decisions of village elders in their favour. Thanks to the enactment of the Act and the registering procedure that it provides, this evolution of the custom in favour of men's interests has been counteracted.

power upon rural women. Moreover, the psychological cost of taking a land dispute to the formal judge was also perceived to be large insofar as, in the women's view, open disputes between close kin "are to be avoided at all cost" (Cooper, 1997, p. 79). As a consequence, the Islamic law and, a fortiori, the statutory law had no impact on the women's lot (see outcome (i) in Table 1).

Over the last decades, however, as shown by a study of sixteen villages located in the delta area (department of Dagana) and the Middle valley (departments of Podor and Matam), the cost of being excluded from the community has fallen as a result of an increase in women's education and an expansion of their non-agricultural employment opportunities (Platteau et al., 1999). Moreover, women who have completed their primary schooling and those who have a non-agricultural occupation (or are engaged in the marketing of agricultural products) have a tendency to manifest their opposition against customary practices such as the levirate system (whereby a widow is remarried to a brother of her deceased husband). Although the study did not measure the proclivity of (progressive) women to call customary inheritance practices openly into question or to invoke the Islamic law, it is interesting to note that the custom has recently evolved toward enhancing women's rights.

There is no evidence, though, that the custom has adjusted to the point of following the Islamic prescription, or the statutory law provision for that matter. Instead, what we find is an evolving practice of transfers aimed at compensating women for their *de facto* exclusion from inheritance of a portion of their father's land. The same phenomenon has been observed in Niger where Cooper (1997) describes cases where women, in recognition of their ownership rights, receive part of the crop harvested on the family land by their brothers under an arrangement known as *aro*. This said, women's access to land often remains fragile and difficult to secure: owing to their absence from the native village following marriage, they typically find it difficult to exercise whichever rights over land might have been granted to them, all the more so as their male relatives are ready to exploit the situation (Cooper, 1997, pp. 78, 81).

This inability to secure their rights on land explains why, in fieldwork, it is so difficult to obtain precise information about the extent of women's rights as well as the amount and regularity of unilateral transfers received from their brothers. Another reason lies in the fact that male respondents are obviously embarrassed when their un-Islamic behavior is pointed out to them. This embarrassment reflects the potential impact of the formal law even when it is not actually followed. As is evident from the above story, such potential impact is manifested in the gradual transformation of the custom in a direction favorable to women, a clear manifestation of the "magnet" effect (see outcome (iii) in Table 1). The ultimate cause of this transformation, we argue, is the emergence of valuable exit opportunities (the expansion of education and non-agricultural employment opportunities) for women which has the effect of diminishing the importance of traditional social protection mechanisms in the event that they fall under distress due to separation, widowhood, unwed motherhood, etc.

In urban areas of Africa, the situation is different because women lawyers' associations and civil society groups play a large role in advocating legal reforms, raising awareness among women about their rights, and supporting their efforts to invoke the statutory law and appeal to the modern court (Tripp, 2004). In terms of our model, the work of these organizations causes a fall in the cost of having recourse to the formal judge, t^C, with the result that women are prompted to use that opportunity and that customary norms undergo a gradual shift in the direction of statutory law (see outcome (iv) in Table 1).

Women's personal status

The story of the Berber village of Tassali in the region of Ouarzazate (Morocco) offers another striking illustration of outcome (iii) in Table 1. The case of Morocco is interesting because a new Family Code has been enacted in February 2004. While the pre-reform prevailing rules were largely founded on a combination of religious values and customary tribal norms, the new Family Code aims at improving woman's status by assigning her a new role in the family (she is now on an equal footing with her husband in matters of family responsibility) and granting her new rights (such as the right to initiate a divorce without being required to adduce evidence of ill-treatment or to produce witnesses). Field observations (by Imane Chaara) conducted in the year 2008 in Tassali have revealed that male villagers tend to view the new Family Code as a threat. Responding to this challenge, most of the local household heads have modified their attitude towards certain aspects of family life. In particular, they do not anymore compel their daughters to marry a man chosen by the parents, and they have softened their behavior vis-à-vis their wife for fear of triggering a divorce and damaging the honor of the family. As for the women, who are aware of the provisions contained in the new Code, they feel that they have acquired a new bargaining power enabling them to asset new rights and to demand greater participation in the decisions of the household. In this example, the "magnet" effect operates through adjustments on the part of household male heads acting as the informal judge in our model.

In Sahelian countries, likewise, divorce was not customarily granted to a wife wishing to leave her husband except in the case of proven mistreatment by the latter (Kevane, 2004; Platteau et al., 1999). Over the recent years, however, women have progressively acquired a *de facto* right to leave an unhappy union. There are two main reasons: first, the severity of social sanctions against leaving an arranged marriage has diminished, to a large extent as a result of continued migration to neighboring countries such as the Ivory Coast (a new exit opportunity). Second, there is the effect of administrative pressure "as successive regimes continue to push for explicit legal rules and rights for women in marriage" (Kevane, 2004, p. 75; Jewsiewicki, 1993). As pointed out by Hillhorst (2000), "A stronger legal status does not automatically afford women more independence but it may provide a strong bargaining position" (Hillhorst, 2000, p.195).

Strangers' rights

Badiari is a Dogon village in the rural commune of Koubewel Koundia (Mali). The local community is

composed of the autochtonous Dogon and of a number of Fulani families who settle in the village seasonally and have come for generations to graze their cattle, sheep, and goats on crop residue and leaves and pods of *Acacia albida*. It has recently attempted to strengthen its customary system of forest management. In particular, a traditional community association which includes village elders (above the age of 55) is in charge of monitoring and enforcing forest use rules. As noted by Charles Benjamin (2008) who reports the story, this association is far less tolerant with the Fulani than with the Dogon: Fulani herders were fined heavily for cutting or breaking even small branches of *Acacia albida.* A Fulani herder who was caught cutting a tree and was consequently fined by the local community association turned first to the Forest Bureau, and when the forester refused to intervene, appealed to the court. The judge ruled against the local association on the ground that it had overstepped its powers. Indeed, according to the new law of decentralization in matters of natural resource management, local governments, and not village communities, are authorized to lay down and enforce regulations (pp. 2263-65). This is evidence of outcome (ii). Note that the stranger (Fulani) families are easily prompted to appeal to the modern court as, being seasonal residents, they do not effectively participate in the life of the local community (the social exchange game).

4 Conclusion

The question of the role of statutory law in social environments permeated by custom and traditional norms acquires special importance when the custom harms the interests of marginal and minority groups. This question has actually drawn the attention of many colonial officials and post-colonial authorities in the developing world (see, e.g., Colin, 2004). It is, therefore, suprising that social scientists (and development economists, in particular) have devoted so little attention to this topic. It is true that anthropologists, especially legal anthropologists, and legal scholars have discussed various aspects of the relationship between law and development, and accumulated interesting empirical evidence. Yet, these endeavours lack a clear theoretical framework as a result of which several aspects of the above issue are often intermingled in the available literature. Since there exists a variety of reasons why a modern law may not have a bite, or may end up privileging members of the elite, it is important to distinguish carefully between these different causes so as to devise appropriate remedies.

In this paper, we focus on situations in which the statutory law is designed to correct social inequalities embedded in the custom. Assuming that marginal individuals are identical in terms of available outside opportunities, we show that several outcomes are possible. Most interesting is the apparently paradoxical state in which the statutory law is not actually invoked yet does exert a positive influence because it acts as a "magnet" that drives the custom in the "right" direction. When heterogenous outside opportunities exist for the marginal or minority groups, the formal law always plays a "magnet" role, and there are at least a few members of the non-priviledged groups - those with the best exit opportunities - who appeal to the

modern court. The others stay within the informal jurisdiction of their native community and benefit from a more favorable verdict. The mechanism underlying the "magnet" effect is simple: by its mere existence, the statutory law empowers disadvantaged people by enabling them to threaten customary authorities to seek recourse from the formal court.

The usefulness of our analytical framework is not only to highlight the inner logic of the "magnet" effect in a rigorous way, but also to determine the influence of a number of key factors, namely (i) litigation and other transaction costs involved in using the formal court system, (ii) the cost of exclusion from social exchanges inherent in community life, (iii) the importance attached by customary authorities to keeping their people within the fold, (iv) the extent of unpredictability of the modern judge's verdict, and (v) the gap between the statutory law and the custom. Factor (i) can be reduced through all sorts of actions aimed at getting the modern court closer to the commoners, including efforts of civil society organizations to make them more willing and able to fight for their new rights. Factor (ii) is narrowly dependent upon the range of outside opportunities available, income-earning possibilities in particular. If factor (iii) is more difficult to act upon, factors (iv) and (v) are the result of the legislator's design.

When (i), (ii) and (iv) decrease, or when (v) increases, the commoners' interests may stand better protected either through an evolution of the custom or through their appeal to the modern court. If (iii) is reduced, the attitude of the informal judge is less accommodating than before. A possible consequence of this change is that the commoners will be prompted to go to the formal court. These are the expected outcomes when the commoners' population is homogeneous in terms of outside opportunities. When it is heterogenous, all the above changes have the effect of (1°) compelling a larger fraction of the village commoners to leave the customary jurisdiction, and (2°) simultaneously driving the custom in the wake of the statutory law (the "magnet" effect).

Of course, the influence of the statutory law is only one possible cause of the transformation of custom. Clearly, the reality is more complex than suggested in our analysis of legal dualism: there may be more than two sources of law; the custom itself may be subject to conflicting interpretations (see, e.g., Berry, 1993; Firmin-Sellers, 1996); the verdict of the modern court may not follow a random distribution as hypothesized in our model; the modern judge may also behave strategically, and this may involve taking customary norms (and Islamic tenets) into account while devising a verdict. All these features create additional complications that might modify the predictions of our basic model. Clearly, ours is just the first attempt at formalizing the relationship between statute and custom, thus opening the way for more refined analyses and rigorous empirical testing based on precise assumptions. If the necessity of these further endeavours has now become more evident, we believe that the ultimate objective of this paper has been achieved.

5 Appendix

A1: Effects on thresholds $\underline{I}$ and $\overline{I}$

The threshold condition (1) can be written as:

$$u^E\left(1-\bar{I}\right) = Eu^E\left(1-v^F\right) - t^E - Q(A) \equiv \Phi^E$$

thus, $\Phi^E(f, \phi, t^E, Q(A))$ denotes the reservation utility of the elite. Clearly, it is decreasing in f (average formal-law verdict), and, by concavity of the utility function, increases with ϕ (precision of the formal verdict). Moreover, it decreases in the net benefit of the elite from the cohesive production (decreases in $Q(A)$) and decreases in the administrative cost of accessing the formal court (t^E). Given this, and the fact that

$$\frac{d\overline{I}}{d\Phi^E} < 0,$$

the threshold identity (for the elite member) of the informal judge is

$$\overline{I}(\overset{+}{f}, \overset{-}{\phi}, \overset{+}{t^E}, \overset{+}{Q(A)}).$$

Similarly, rewriting (2) as

$$u^C\left(\underline{I}\right) = Eu^C\left(v^F\right) - t^C - Q(A) \equiv \Phi^C,$$

and observing that the expected outside option of the commoner , Φ^C, increases in f and ϕ, and decreases in t^C and $Q(A)$, we get that the threshold identity (for the commoner) of the informal judge is

$$\underline{I}(\overset{+}{f}, \overset{+}{\phi}, \overset{-}{t^C}, \overset{-}{Q(A)}).$$

A2: Effects on threshold $\bar{v}$

Rewrite (3) as

$$g(\bar{v} - I) = X + Q(A) - Q(A_C) \equiv \Pi^C,$$

where $\Pi^C(X, Q(A), Q(A_C))$ denotes the maximum loss that the judge biased against the commoner is ready to accept, before letting the case go to the formal court. Thus maximum loss clearly increases in the judge's direct payoff from the case (X), the net benefit from the cohesive production of the community public good ($Q(A)$). The maximum loss decreases in the net benefit from the public good under the exclusion of the commoner ($Q(A_C)$). Since

$$\frac{d\overline{v}}{d\Pi^C} > 0,$$

the judge's threshold verdict $\overline{v}$ carries through all the above comparative statics signs:

$$\overline{v}(\overset{+}{X}, \overset{+}{Q(A)}, \overset{-}{Q(A_C)}).$$

B1: Effects of the severity of disputes on thresholds $\underline{I}$ and $\overline{I}$

We characterise any dispute according to a parameter $\gamma \in [1, \gamma_{\max}]$ and rewrite the utilities obtained by the commoner and the elite member from a specific verdict v as $\gamma u^C(v)$ and $\gamma u^E(1-v)$ respectively.We denote by $G(\gamma)$ the distribution of the severity of disputes. For notational simplicity, we abstract away from the payoffs of the social game. This will not qualitatively affect the results in this section. Then, the critical values $\underline{I}$ and $\bar{I}$, are given by the following equations:

$$\gamma u^C(\underline{I}) = \gamma E u^C\left(v^F\right) - t^C \quad (4)$$

$$\gamma u^E\left(1-\bar{I}\right) = \gamma E u^E\left(1-v^F\right) - t^E \quad (5)$$

We denote by $\underline{I}(f,\gamma)$ and $\bar{I}(f,\gamma)$ the solution to these two equations. It is then easy to show that $\underline{I}(f,\gamma)$ is increasing and $\bar{I}(f,\gamma)$ is decreasing in γ.

B2: Effect of f on the threshold $\bar{\gamma}$

Suppose that f is very different from I such that $X - g(f-I) < 0$. If $f > I$, then as γ increases, $\underline{I}(f,\gamma)$ approaches f. Therefore, for γ sufficiently large, we have $X - g(\underline{I}(f,\gamma) - I) < 0$. On the other hand, for γ sufficiently large, we have $I \notin \left[\underline{I}(f,\gamma), \bar{I}(f,\gamma)\right]$. Combining the two results, we conclude that for large γ, we have $v^M(f,\gamma) \notin \left[\underline{I}(f,\gamma), \bar{I}(f,\gamma)\right]$ (since the threshold verdict for the commoner is too costly for the informal judge). A similar reasoning applies with respect to $\overline{I}(f,\gamma)$ when $f < I$. Therefore, for the most critical disputes, the informal judge would not be willing to accommodate both parties. Consequently, these would end up in the formal court.

Let $\bar{\gamma}(f)$ be the threshold value of γ, such that all disputes for which $\gamma > \bar{\gamma}(f)$ go to the formal court; and all disputes for which $\gamma < \bar{\gamma}(f)$ go to the informal court. Then $\bar{\gamma}(f)$ is given by the solution to the following equations:

$$X - g\left[\bar{I}(f,\gamma) - I\right] = 0 \text{ if } f < I \quad (6)$$

$$X - g\left[\underline{I}(f,\gamma) - I\right] = 0 \text{ if } f > I \quad (7)$$

It is possible to show that as f moves away from I, the threshold value $\bar{\gamma}$ decreases. Therefore, more disputes will end up in the formal court when the formal law is very different from I.

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