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Eradicating women-hurting customs

What role for social engineering?

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Abstract: Social engineering refers to deliberate attempts, often under the form of legislative moves, to promote changes in customs and norms that hurt the interests of marginalized population groups. This paper explores the analytical conditions under which social engineering is more or less likely to succeed than more indirect approaches when it comes to suppress gender-biased customs. This implies discussing the main possible interaction frameworks leading to anti-women equilibria, and deriving policy implications from the corresponding games. The theoretical arguments are illustrated by examples drawn from available empirical works, thus providing a reasoned survey of the literature.

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1 Introduction

Since the birth of modern development economics in the period immediately following Second World War, attention has been mostly directed to the determinants of long-term economic growth performance and, in a subsequent stage, to issues of income distribution and poverty reduction. The implicit assumption was that the material level of living is the critical component of individual welfare and that non-economic factors, social norms and practices in particular, change gradually in response to the enlargement of opportunities that accompanies economic growth. Regarding the latter preconceived view, pioneer development economists such as Arthur Lewis (1955), Peter Bauer and B.S. Yamey (1957), Gerald Meier and Robert Baldwin (1957), and Alfred Hirschman (1958) did not believe that there exist definite social and cultural prerequisites of development: norms, customs and religious beliefs would evolve and be reinterpreted as a function of the economic environment.

Recent thinking has called into question this ‘organic approach’ to development in two ways. First, personal welfare or human happiness is crucially influenced by non-economic factors, such as autonomy, participation in communal life, freedom to develop own talents and pursue own ends, dignity and self-esteem. The presence or absence of these conditions determines whether or not destitution is added to poverty (Dasgupta, 1993). Second, even if non-economic determinants of welfare are overlooked, the ability to seize upon economic opportunities, which affects economic progress, may be constrained by social norms and informal rules that do not automatically vanish as growth proceeds (Platteau, 2000; Platteau and Peccoud, 2010).

Reflecting the above questioning is the growing tendency to promote deliberate changes in customs, particularly those which hurt the interests of one or several population groups and may therefore be regarded as harmful in the present circumstances. This active attitude toward harmful customs is characteristic of what may be called ‘social engineering’. The human rights approach, which has gained increasing currency since the 1980s, is an important component of social engineering. In matters of gender equality, for example, the first visible step in that direction was the Convention to Eliminate all forms of Discrimination Against Women (CEDAW), adopted by the United Nations in 1979. For the first time, it was stated explicitly that member states ‘should engage to modify the social and cultural patterns of conduct of men and women, with a view to achieving the elimination of prejudices and customary and all other practices which are based on the idea of the inferiority or the superiority of either of the sexes or on stereotyped roles for men and women’. This document opened the way for actions combining legal interventions in the name of universal human rights, and effective mobilization of victims so that they can perceive themselves as right-holders. In short, legal and preference changes are advocated. Non-Governmental Organizations (NGOs) and international agencies, UNICEF in particular, have run many initiatives that both refer to legal or quasi-legal principles and attempt to drive preference change.

To find more precision on the target of the human rights approach, one may refer to the UN fact sheet on Harmful Traditional Practices Affecting the Health of Women and Children published in 1995 (OHCHR, 1995). This document identifies five main harmful practices, namely, female genital cutting (FGC), early marriage and dowry, son preference, female infanticide, and early pregnancy and practices related to child delivery, which are clearly identified as human rights violations. This list is not exhaustive since one may think of other customs that do substantial harm to their victims yet are

not covered under any of the five practices pointed in the fact sheet.

An essential feature of the social engineering approach is thus that it directly confronts the harmful custom with a view to eradicating it, often in the name of human rights. An alternative, more indirect, approach consists of encouraging changes in the technological, economic, or social environment in order to modify the costs and benefits of norm abidance. The difference between this indirect approach and the ‘organic’ approach advocated by many development economists of the 1950s (see above) lies in the fact that endogenous growth processes do not necessarily lead to the cost/benefit changes that cause harmful customs to disappear: specific policies may be required to generate the economic incentives susceptible of modifying them.

In this paper, we want to explore the analytical conditions under which social engineering is more likely to succeed or fail when it comes to suppressing gender-biased customs. A dominant theory that has guided many efforts on the ground is a coordination game in which a bad Nash equilibrium has been selected because of pessimistic expectations of agents. There are other possible situations, however, and they need to be represented by other types of games. What we set out to do is to discuss the main possible interaction frameworks that can produce anti-women (Nash) equilibria, and to derive policy implications from the corresponding games. This will necessitate that we differentiate between games involving agents with homogenous preferences and those involving heterogeneous agents (here, great attention will be paid to different possible shapes of the distribution of preferences and their differentiated effects), between coordination games and bargaining games, and between coordination games and the rival claimants’ game. Also, the influence of group membership on individual beliefs, preferences, and opportunities, or the role of social influences will have to be recognized.

Only then will we be able to determine which approach is more appropriate to fight against harmful customs in varying contexts and what is the appropriate time frame within which it is realistic to expect results. In particular, we aim at understanding the various roles that the statutory law can play and at highlighting the conditions under which legal interventions can be expected to be effective and whether and when they need to be supplemented, or replaced, by other strategies or policies.

To probe into this issue, we start by looking at the possible impact of the law on harmful customs in different situations depicted as games. We first look at situations in which the law has an expressive effect, starting with the most well-known model which assumes that all agents have identical anti-custom preferences (Section 2). We then remove the assumption of preference homogeneity to consider a more general case in which agents with different preferences interact in a purely decentralized manner (Section 3). In a third step, we review attempts to model the impact of the law assuming that it has a deterrence effect. Deterrence can be activated by the people themselves, by the state or by the informal authority (Section 4). After understanding under which conditions the law can be effective, we turn to the possibility of changing preferences, which will be done in a heterogeneous agents’ framework (Section 5). In the next step (Section 6), attention is shifted to situations where harmful customs are modified as a result of changes in the cost-benefit environment. Section 7 then discusses the role of culture and the way strong feelings of identity can make eradication of harmful practices more difficult. Section 8 concludes by deriving the main lessons from our attempt to clarify the issue of eradication of harmful customs with the help of economic analysis.

Note that, to help the reader better perceive their relevance, the theoretical arguments exposed in

the different sections will be illustrated by examples drawn from available empirical works. Besides providing a theoretical scaffolding to analyse the soundness of strategies aimed at combatting harmful customs, this paper therefore proposes a reasoned survey of the relevant literature.

2 The expressive effect of the law: homogeneous agents

2.1 Theory

A first mechanism through which the law can affect a custom is the so-called ‘expressive’ effect of the law (Cooter, 2000; McAdams, 2000; Kahan, 1997; Galbiati and Vertova, 2014), which corresponds, in economics, to the idea of the law acting as a focal point in a coordination game (for a critical discussion of this approach, see Basu, 2015). By definition, when the law has no enforceable sanction, the only way it can influence behaviour is through its expressive function. Coordination games are used to model customs that are considered social norms. The starting point of the social norm literature, pioneered by Schelling (1960) and Akerlof (1980), is that individual choice depends on how many people in the reference group will adopt a given behaviour.¹ A direct implication is that it is difficult to move away from the equilibrium outcome when agents’ expectations have converged on that outcome.

Let us start from the simplest case in which all agents have identical preferences and therefore agree on the ranking of the various possible equilibrium outcomes. If a socially inferior outcome prevails, such as is the case when a harmful custom is established, it can only be because agents have (converging) pessimistic expectations. In other words, everybody dislikes the norm but nobody wants to deviate from the habit of following it given the expected behaviour of the others (see Akerlof, 1976; Kuran 1987; 1988; 1997). In this framework, the custom is a focal point and, to remove it, one only needs a mechanism able to make agents change their expectations in a coordinated manner so that they can establish their preferred outcome. One such mechanism is a statutory law that would act as a new focal point.

For the sake of illustration, consider the following FGC game. There are two players representing parental couples belonging to two different households in the community. They have to decide whether to circumcise their daughter (strategy C) or not (strategy R). The payoff matrix displayed in Table 1 is based on the common view that FGC can be analysed as a coordination game (see Mackie, 1996; Mackie and LeJeune, 2009): parents wish to adopt the same behaviour because of the need to find a good match for their daughters on the marriage market. We label μ the benefit of coordination, whether it is derived from coordinating on cutting or from coordinating on not cutting. When coordination is on cutting, however, parents also incur a cost, denoted as θV , where θ can be thought of as reflecting the health risk to which girls are exposed when cut while V is an amplifying factor created by the external environment (say, the anti-cutting pressure exerted by the government, donor countries, or non-governmental organisations). The payoffs obtained in case of mismatch is therefore $-\theta V$ for the parents who cut their daughter, and zero for those who have refrained from doing so.

In such a game, assuming that $\mu - \theta V > 0$, there are three Nash equilibria (NE).² There are two

¹We do not precise the nature of the reference group, even when it is labelled the ‘community’. A community, indeed, does not correspond to the whole village society, for example.

²Note that, when the cost entailed by cutting is so large that $\mu - \theta V < 0$, there is a unique equilibrium (R, R) .

Table 1: A game of female genital cutting

		Parents of household 2	
		Cut daughter (C)	Reject the practice (R)
Parents of household 1	Cut daughter (C)	$\mu - \theta V, \mu - \theta V$	$-\theta V, 0$
	Reject the practice (R)	$0, -\theta V$	μ, μ

NE in pure strategies: the two parental couples cut their daughter, the (C, C) outcome, or both of them refuse to do so, the (R, R) outcome. There also exists a Nash equilibrium in mixed strategy in which each parental couple plays ‘cutting’ (C) with probability $\frac{\mu + \theta V}{2\mu}$, and ‘not cutting’ (R) with probability $\frac{\mu - \theta V}{2\mu}$. Limiting our attention to NE in pure strategies, we see that only one of the two equilibria, (R, R) is socially efficient, yet expectations may lead the players to select the inefficient outcome, (C, C) . Once trapped in this nasty equilibrium, players do not want to deviate from their strategy: everybody agrees that the practice is harmful and should be abandoned but ‘no one dares to be the first to abandon it’ (Abdalla (1982, pp.94-95) cited from Mackie (1996, p.1014)). The inefficient equilibrium is then a focal point. Yet, in this game, it could be abandoned if the right kind of intervention, a legal ban of FGC, for example, makes the outcome (R, R) a new focal point by driving the agents’ expectations to converge on it.

The above game is important precisely because the story that it underpins has been so influential among Non-Governmental and international organisations working to improve women’s and children’s wellbeing in a human rights framework.³In other words, many officers in charge of designing interventions intended to fight against harmful practices have found the social norm approach and its emphasis on coordination incentives quite appealing on the conceptual level.

A striking illustration is the anti-FGC interventions promoted by UN agencies such as UNICEF and UNFPA (the specialized agencies for Children and for Population, respectively) as well as by a number of NGOs. Consider the experience of Tostan, an NGO focused on the task of eliminating FGC (and early marriage) throughout the West Africa region. Enacted in 1999, a law bans this practice in Senegal, the country where Tostan has its headquarters. In its work with rural communities, Tostan framed FGC as a human right violation and, as part of a broader programme to empower women, it made explicit reference to existing laws and conventions designed to protect women’s and children’s rights. Its strategy was clearly based on the social norm approach since its ultimate step was to achieve declarations whereby people from different village communities publicly announce the abandonment of the harmful practice. Public declarations were thus intended to serve as both a coordination and a commitment device, expected to become the new focal point for these communities.

An important remark about equilibrium selection in games with multiple equilibria serves as a natural transition to the presentation of the available empirical evidence in the next sub-section. The concept of risk dominant equilibrium elaborated by Harsanyi and Selten (1988) offers a valid alternative to the concept of focal point to sort out the selection problem that arises in multiple-equilibria games. In a 2x2 game, a NE is considered risk dominant if it is less risky (i.e. it has the largest basin of attraction)

³FGC is considered as a violation of human rights, in particular, of the right to be free from all forms of discrimination against women; the right to health, to body integrity and to freedom from violence. All these rights are protected by international treaties such as the CEDAW.

and the more uncertainty players have about the actions of the other players, the more likely they will choose the risk dominant strategy in preference to the payoff dominant strategy, which corresponds to the Pareto-superior or socially efficient strategy. This has been shown in the context of large populations with the help of evolutionary theory.⁴ In the FGC game depicted above, it is noteworthy that the dilemma born of the selection of the risk dominant, socially inefficient equilibrium, as it is found in the well-known stag hunt game, does not actually arise. This is because the risk dominant equilibrium turns out to be (R, R) which is also the payoff dominant equilibrium.⁵ That (R, R) is risk dominant is evident from a simple glance at Table 1. Not only is the payoff received when coordinating on R higher than the payoff received when coordinating on C , but it is also the case that the loss incurred if the other player deviates from (R, R) is not larger than the loss incurred if deviation is from (C, C) .⁶ We are therefore in the presence of a game where, although players are uncertain about the other players' actions, they will evolutionarily select the Pareto-superior equilibrium. In more concrete terms, the theory of risk dominance predicts that the practice of FGC should not be observed.

2.2 Empirical evidence

While theoretically appealing, the definition of FGC as a social norm which gives rise to a coordination problem, has not been empirically established. Bellemare et al. (2015) in a cross-country analysis of the custom in West Africa find that, on average, 87 per cent of the variation in FGC persistence (measured as the individual's support for the practice) is explained by individual level and household characteristics. They additionally find that the more widespread the practice is in a country, the more individual factors explain its persistence. Both findings are at odds with the coordination game used to explain FGC, since, in this game, the persistence of the custom is explained by how many people practice it rather than by household and individual characteristics. These results also suggest that strategies other than public declarations and pledging, such as targeting individuals, might be more effective in countries where FGC is pervasive.

For Sudan, Efferson et al. (2015) have tested the validity of the coordination model of FGC which has inspired development agencies and NGOs. If FGC is a social norm at the community level, then communities should have either a zero or 100 per cent FGC incidence and an important discontinuity in FGC rate between the two types of communities should be observed. Using a sample of girls from 45 communities, they find neither extreme rates of FGC nor discontinuity in the distribution of FGC incidence across communities. These findings point at the absence of a common cutting norm at that level. It is still possible that coordination takes place at another level than the community, in particular if the community does not completely overlap with the marriage pool (under the assumption

⁴Two separate evolutionary models support the idea that the risk dominant equilibrium is more likely to occur. In both models, the agents play multiple two-player games and are matched randomly with opponents. The first model, based on replicator dynamics, predicts that a population is more likely to adopt the risk dominant equilibrium than the payoff dominant equilibrium. The second model, based on best response strategy revision and mutation, predicts that the risk dominant state is the only stochastically stable equilibrium (see Kandori et al. 1993; Young 1993; Fudenberg and Levine 1998).

⁵The condition for the (R, R) equilibrium to risk dominate the (C, C) equilibrium is that the product of deviation losses when both players play (R, R) exceeds the product of deviation losses when they both play (C, C) . This condition, which requires that $\theta V > 0$, is always satisfied for the game depicted in Table 1.

⁶Because the game is symmetric, the condition for (R, R) to risk dominate (C, C) is reduced to requiring that the sum of the payoffs received by agent 1 when the combination of plays is (R, R) and when the combination is (R, C) is greater than the sum of payoffs obtained from (C, C) and (C, R) .

that coordination takes place within the marriage network). However, the authors find a high level of endogamy within communities. Moreover, in each community a substantial number of households declared that they could marry with families not practicing FGC. Finally, an implicit association test has been run ⁷ within each community to check the presence of any discontinuity in normative attitude towards FGC. If, within the same community, two separate norms, cutting and not cutting, coexist, a bimodal distribution of the individual scores from the test should be observed: individuals should either show a positive attitude towards FGC or a negative one. However, the authors do not find any implicit association between being cut and positive or negative values: the distribution of test scores is unimodal and centered on zero. The authors conclude that their findings are not compatible with a model of coordination (with homogenous preferences) either within the communities or the marriage pool.

In a companion study (Vogt et al., 2016) the authors show how heterogeneity within communities and families can be exploited to change the attitudes towards FGC. They run an experiment where movies dramatizing diverging opinions on FGC within an extended family are used as treatment in some villages of South Sudan. The treatment outcome is obtained through an implicit association test, and what comes out is an improvement in the perception of uncut girls in the treated group. This result is therefore achieved in the absence of any trigger of beneficial coordination, just by working on the level of individual perceptions.

In a study conducted in the Senegalese region of Kolda, (Camilotti, 2015a,b) has explicitly studied the impact of Tostan’s intervention, the potential role of the public declaration mechanism, and the possible effects of the legal ban on FGC. Tostan actually used two methods to achieve the termination of cutting. First is the aforementioned expressive law effect to be achieved through a public commitment destined to assure everyone that all community members are ready to abandon the practice of cutting. Second, is a training programme emphasizing the health cost of cutting. While the former component assumes that everybody dislikes the FGC practice, the latter assumes that people follow it because they underestimate its cost for the girls who are cut. The main findings of Camilotti can be summarized as follows. First, the impact of the intervention that can be ascribed to Tostan’s programme as such exists but appears to be quite limited: in the targeted villages, the cutting practice has largely persisted. Second, there is evidence that the new anti-FGC environment, which includes the new law, generates perverse effects in the form of a decrease in the age at cutting, with potentially noxious consequences on the level of health. Third, there is no evidence that public declarations have worked as a coordination and commitment device. Fourth, there is nevertheless some evidence suggesting that coordination might take place at the level of the extended family network. Taken together, Camilotti’s first three findings suggest that the expressive law effect did not materialize because the game’s payoff structure is not that of a coordination game. Moreover, it is evident from the the first two findings that Tostan’s intervention did not succeed in raising θ so much as to make $\mu - \theta V$ negative. If it were the case, indeed, everybody would have stopped cutting girls.

Lastly, using a dataset of 24,000 women born between 1949 and 1995 in Burkina Faso, Novak (2016) again shows that households within a community have heterogeneous preferences for FGC. A

⁷The implicit association test is a way to test the strength of the connection people make between two concepts without explicitly asking their opinion. In the present context, individuals were shown on a screen two drawings of girls, one cut and one uncut, and a set of either positive or negative words that they had to associate to one of the girls.

key determinant of the willingness to abandon FGC is formal education: women who have received any formal education are more ready to abandon FGC than uneducated women. In the specific context of the study, this means that, compared to uneducated women, educated women require a smaller proportion of other FGC-opposing women to be willing to themselves abandon the practice.

Overall, the results of the four above studies indicate that the conceptualization of FGC as a coordination game in which agents have homogeneous anti-FGC preferences is misleading. A legal ban of FGC or any other device that should work as a new focal point will perform poorly if expectations regarding other people’s behaviour are not the leading determinant of behaviour. Scepticism about the empirical relevance of the game depicted in Table 1 confirms the doubts raised by the discussion of risk dominance at the end of the previous sub-section: agents should select the socially efficient equilibrium since it coincides with the risk dominant equilibrium. Since empirical evidence attests that FGC is a widespread practice in some societies, we are led to call the above game into question.

Evidence also suggests that individual preferences are not identical so that a coordination game with symmetric payoffs does not appropriately reflect reality. In the following, we therefore develop an alternative framework that is explicitly based on the assumption of heterogeneous preferences yet still belongs to the social norm approach. As a matter of fact, observations that there is no massive abandonment of the FGC practice but that a minority of people respond to a change in the (legal) environment do not, in and of themselves, form a sufficiently strong basis to dismiss the social norm/coordination analytical approach.

Such a choice does not imply that we want to rule out another possible explanation, which could simultaneously account for persisting coordination on the socially inefficient equilibrium and unequal prevalence of the FGC practice both across and within communities. These phenomena could be observed if people have homogeneous anti-custom preferences but coordination takes place at other levels than the village or the inter-village network. For example, as suggested by Munshi and Myaux (2006) with regard to the use of contraception in rural Bangladesh, there exist strong sub-village networks (in this instance, religious groups) through which people coordinate their actions related to social activities. However, because evidence points to the importance of individual- or household-level determinants of behaviour vis-à-vis FGC, and because considerations of spouse matching on the marriage market do not seem as paramount as what some literature suggests, we believe that we are on rather firm grounds when we emphasise the role of heterogeneous preferences and try to understand their implications for coordination equilibria.

3 The expressive effect of the law: heterogeneous agents

In order to keep our canonical model of heterogeneous preferences as simple and as general as possible, we abstract from certain features specific to particular social norms, for example, the future marriageable value of women who are cut (see Chesnokova and Vaithianathan (2010) for an example of modeling FGC in the marriage market)⁸.

⁸In a marriage market, heterogeneity could be present only on the men’s side: some men prefer to have a wife who has been cut while others do not. If they ignore whom they are going to attract, potential brides (more precisely, their parents) might opt for FGC even though they dislike that custom. Equilibrium will then depend on the degree of heterogeneity in the husbands’ preferences for FGC, assuming that no bride wants it. This could be entirely consistent with situations of partial prevalence of the FGC norm and with its determination by individual preferences. Empirical

In conformity with the social norm approach (see Granovetter (1978); Schelling, 1960), we assume that the positive component of the agent's utility function varies positively with the proportion of the population that follows the custom⁹. The negative component, however, is idiosyncratic and reflects the agent's aversion towards the custom or the cost incurred by following it. Adapting from a model recently proposed by Auriol and Platteau (2016), the net utility obtained by an agent from following the (harmful) custom is written thus:

$$U_i = u(P) - \theta_i V(E)$$

where P stands for the proportion of the population that abides by the custom, θ_i is the aversion coefficient of individual i , E represents the (legal) environment bearing upon the custom, and $V(E)$ represents the way this environment translates into a cost of following the custom. The positive component of utility, $u(P)$, is assumed to be linear: $u(P) = \mu P$. It therefore has the following properties: $u'(P) > 0$, $u''(P) = 0$, $u(0) = 0$, $u(1) = \mu$. Moreover, each member of the population is characterised by a parameter $\theta_i \in [0, 1]$, which is distributed according to the continuous density $f(\theta)$ and cumulative distribution $F(\theta)$ functions. For a given environment E , agents therefore incur different costs depending upon their degree of aversion towards the custom (the greater this aversion, the higher θ_i). The first derivative, $V'(E)$, is assumed to be positive, implying that an environment that has become more hostile to the custom, reflected in an increase of E , causes higher costs for those who continue to follow it. Note that the cost expression is multiplicative, implying that the hostility of the environment entails higher costs for the agents who are more averse to the custom.

At equilibrium, if we consider the case of the indifferent agent whose aversion coefficient is defined as $\theta_i = \theta^*$ such that the agent's net utility from the custom is equal to zero, we observe that $P = \int_0^{\theta^*} f(\theta)d\theta = F(\theta^*)$. This means that the proportion of the population which has a lower or equal aversion for the custom than the indifferent agent is equivalent to the proportion of the population that abides by the custom (having a positive or null net utility from the custom).

The utility of the indifferent agent then is:

$$\mu F(\theta^*) - V(E)\theta^* = 0, \text{ implying } \frac{\mu F(\theta^*)}{V(E)} = \theta^* \quad (1)$$

where $F(\theta^*) = P$, the proportion of people who abide by the custom. Equation (1) requires that an interior solution exists.

Since there are obviously multiple NE in such a static coordination game (in particular, the Nash equilibrium where nobody follows the custom, $\theta^* = F(\theta^*) = 0$, always exists), it is convenient to restrict the number of equilibria by introducing some dynamics in the game. We thus assume that at each point of time there is a probability that a new agent is added to the pool of existing members. This new agent is drawn at random from the set $[0, 1]$ according to the density function $f(\theta)$. He (she) enters the pool of members with a given θ^a , and will have to decide whether to follow the custom

evidence, however, suggests that heterogeneity of preferences characterizes women as well as men. This is an additional reason why we stick to a general model of norm abidance in which preferences are not differentiated on the basis of gender.

⁹A different way to model social norms is by assuming that non-conformity leads to a decrease in utility due to sanctions or loss of reputation. The utility loss is then proportional to the number of people following the norm (see Akerlof, 1980; Ambec, 2008).

or not. He (she) chooses to abide by it if $\mu F(\theta^*) > \theta^\alpha V(E)$, where $F(\theta^*)$ is the equilibrium point before the introduction of the new agent. This assumption helps us to solve the selection issue: an equilibrium can be selected only if it is stable in the sense that one additional draw does not disturb it. Formally, following Auriol and Benaim (2000), the stability condition is written: $\mu f(\theta^*) - V(E) < 0$.¹⁰

It is evident that the characteristics of the equilibria critically depend on the shape of the distribution function over θ_i , for a given level of $V(E)$.

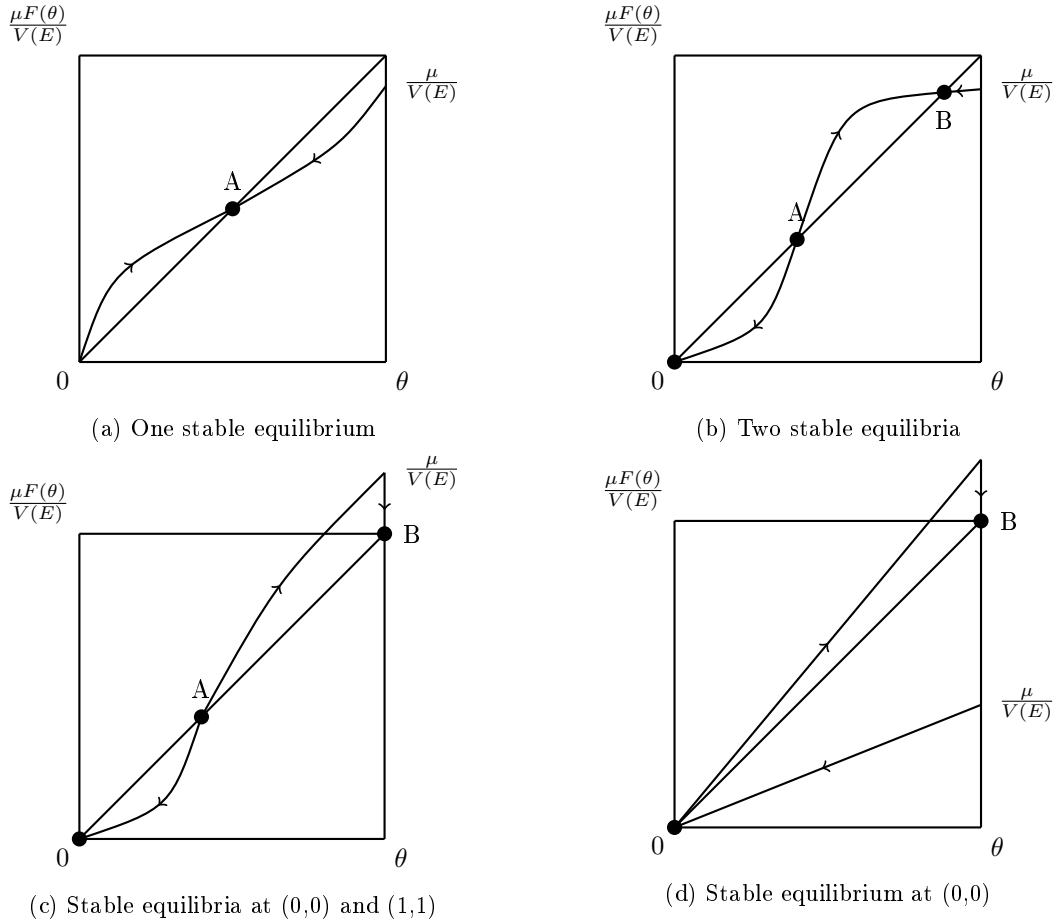


Figure 1: Examples of coordination games with multiple equilibria

Figure 1 shows some possible situations. The horizontal axis represents the type of agents, θ_i , and the curve shows the agent's utility from conforming to the custom divided by the common component of the individual cost, $\frac{\mu F(\theta)}{V(E)}$. Given equation (1), an equilibrium is when the 45 degrees line, corresponding to the identity function $\theta = \theta$, crosses the curve. It is a stable equilibrium if, increasing θ_i , the curve reaches the intersection point from above the 45 degrees line.

We can now examine important possible equilibrium configurations. To begin with, Figure 1a.

¹⁰For Auriol and Benaim (2000), indeed, if we let $dx/dt = g(x)$ be an autonomous differential equation, and $x(t) = x^*$ is an equilibrium so that $g(x^*) = 0$, the following result is obtained: if $g'(x^*) < 0$, the equilibrium $x(t) = x^*$ is stable, and if $g'(x^*) > 0$, the equilibrium is unstable. Applied to our problem, we have: $d\theta^*/dt = \mu F(\theta^*) - \theta V(E)$. The condition $g'(x^*) < 0$ therefore implies $\mu f(\theta^*) - V(E) < 0$.

depicts the case where the density function $f(\theta)$ is U-shaped (i.e. convex), representing a distribution of people which puts more weight at the extremes. In this bimodal distribution, there are thus two masses of individuals with very high or very low aversion to the custom. With such a polarized population, the interior equilibrium, when it exists (that is, when the two curves have an intersection point, such as they have at point A), is stable: any random perturbation around the equilibrium point will bring back the system to that point. Indeed, the curve $\frac{\mu F(\theta)}{V(E)}$ lies above the identity function beneath the intersection point and below the identity function beyond that point. We can therefore conclude that, with a U-shaped density function, a fraction of the people follows the custom while the remainder does not provided that the curve crosses the identity line. This (stable) interior equilibrium is unique.¹¹

Figure 1b describes a quite different situation in which most of the people tend to be concentrated around the middle of the distribution of θ values: the density function $f(\theta)$ is unimodal and its peak lies around the middle of the $[0, 1]$ range. This means that the majority of people have a moderate (medium) aversion to the custom. In this figure, the first intersection point (denoted by A) is unstable while the second one (denoted by B) is stable. In such an instance, there are two possible stable equilibria: either nobody follows the custom or a rather large proportion of the population does. It is easy to check from Figure 1c that, if the curve $\frac{\mu F(\theta)}{V(E)}$ crosses the 45 degree line only once (at point A) inside the $[0, 1]$ range, the second intersection point would lie on the vertical axis so that $\frac{\mu F(\theta)}{V(E)}$ exceeds θ at $\theta = 1$ (implying that $\mu > V(E)$). The solution with $\theta^* = F(\theta^*) = 1$ is therefore a possible (stable) equilibrium and we have a case where either nobody or everybody follows the custom.

Let us now turn to extreme situations in which the overwhelming majority of the people have either very low or very large values of θ_i . It is then easy to see that a unique stable equilibrium will prevail. If almost all the people are clustered around a value of θ_i close to zero, and $\mu/V(E)$ is high enough, the $\frac{\mu F(\theta)}{V(E)}$ curve will have a strongly concave shape which entirely lies above the 45 degree line and crosses the vertical axis above the point $\frac{\mu F(\theta)}{V(E)} = 1$. The only (stable) equilibrium is then $\theta^* = 1$: everybody sticks to the custom. Conversely, if almost all the people are clustered around a value of θ_i close to one, and μ/V is small enough, the $\frac{\mu F(\theta)}{V(E)}$ curve will have a strongly convex shape which entirely lies below the 45 degree line and crosses the vertical axis below the point $\frac{\mu F(\theta)}{V(E)} = 1$: nobody follows the custom.

A last case to consider is that of a uniform density function that translates into a linear cumulative distribution function. As Figure 1d shows, two main possibilities arise: either the $\frac{\mu F(\theta)}{V(E)}$ curve lies entirely below, or entirely above the 45 degree line. In the former case, which corresponds to a situation where $\mu/V < 1$, the unique stable equilibrium is $\theta^* = 0$: nobody abides by the custom, which is according to intuition since the utility obtained when everybody follows the custom, μ , is smaller than the cost $V(E)$. In the latter case, which corresponds to a situation where $\mu/V > 1$, the unique stable equilibrium is $\theta^* = 1$: everybody abides by the custom since even the most averse person draws a net benefit from custom abidance.

¹¹If the cost element of the utility function is additive so that an hostile environment creates a fixed cost, there would then be a minimum positive value of θ, θ_{min} , below which nobody would follow the custom. This is because even these agents require that a positive fraction of the community abides by the custom to themselves agree to do so. The curve $\frac{\mu F(\theta)}{V(E)}$ would start to rise from this point, θ_{min} , that is, necessarily below the 45 degree line, and there would be an additional intersection point, which would nevertheless correspond to an unstable equilibrium.

We have earlier discussed the expressive role of the law in a coordination game when multiple stable equilibria exist, highlighting the way it can theoretically help to change the focal point and move from one equilibrium to another. Allowing for preference heterogeneity, we now understand that the final equilibrium the law can lead to fundamentally depends on the underlying distribution of preferences (or aversion) to the custom. Thus, when many people have a moderate aversion toward the custom so as to be clustered around the average value of θ (see Figures 1b and 1c), the law can possibly act as a new focal point entailing the disappearance of the harmful custom (the shift from large or total adoption to zero adoption). But if the distribution of preferences is such that no equilibrium exists at $(0,0)$, when the density function is U-shaped, for example (see Figure 1a), the total disappearance of the harmful custom cannot be achieved by changing people’s expectations. This point has been stressed by Cooter (2000).

That the distribution of preferences plays a critical role has now become clear: it determines the type of effect that we should expect from any coordination device aiming at changing people’s expectations. In particular, coordination might not be enough to eradicate harmful social norms, as it has been empirically shown in the aforementioned studies of Camilotti (2015a; 2015b). As a consequence, interventions designed for modifying the payoffs or the preferences of individuals are most likely needed. From the model depicted above, it is actually evident that the law can activate another mechanism than the expressive one: a stricter law can thus increase the cost of following the custom, $V(E)$, which amounts to changing the payoff matrix. Equilibrium outcomes can be consequently modified. The increase in the cost is reflected in the fact that being caught breaking the law now leads to punishment by the formal authority. This is what in the legal literature is called ‘the deterrence effect of the law’. We explore this dimension in the following section.

Before embarking upon that task, however, a remark deserves to be made. We have assumed above that agents take their decision to follow the harmful custom or not in a simultaneous manner. It is well known that in coordination games sequential playing instead of simultaneous playing yields the efficient equilibrium. For example, in the simple 2x2 game of excision depicted in Table 1, if one of the parental couples could make the decision in a first move while the other couple decides thereafter, the first-mover would always choose to abstain from cutting the daughter. This is because, having done so, the first-mover knows that it will be in the interest of the second-mover to follow suit. This outcome obeys the logic of a coordination game and obviously causes the socially inefficient $(0,0)$ equilibrium to vanish. Things are more complicated when preferences are heterogeneous. Indeed, the outcome then depends upon the preference of the first-mover. If the first-mover rather likes the custom, he (she) will follow it and the second-mover may choose to make the same decision although being rather averse to the custom. But the converse outcome could also happen: if the first-mover rather dislikes the custom, he (she) will shun it and the second-mover may choose to also renounce the custom although being less averse to it. This nicer result is obtained by Mackie (1996; 2000) in the context of an n-person game. Considering again the case of FGC, he shows that the disappearance of the custom can start from a group of individuals with high aversion for the custom: the group of custom-breakers grows in size until a critical mass is reached and the utility from non-cutting becomes higher for everybody. Note that the underlying assumption behind this cascade model of the type proposed by Kuran (1988, 1997) is a distribution of preferences similar to the one assumed in Figures 1b and 1c. An important question

is therefore whether the position of first-mover(s) is randomly decided, or whether those individuals with highest aversion to the harmful custom are ready and able to take up the leadership position. It is obvious that the second possibility is more conducive to the demise of the harmful custom than the first one.

4 The deterrence effect of the law

4.1 Theory based on the social norm approach

We are now ready to examine the impact of the law when its function includes punishing deviant behaviour when detected: the expected cost of punishment is the ultimate threat that leads people to re-negotiate the custom. This is a standard element of the law and economics approach, where prominence is given to the legal tool and to a positive probability of being caught. The law therefore changes the payoffs of the game, increasing the cost of following the custom and modifying the agents' cost-benefit configuration.¹²

In the model used in Section 3, the government creates an environment, labeled E , which is either more or less hostile to the harmful custom. A larger value of E means that the environment is more hostile, thereby inflicting greater cost on custom-followers. A direct effect of a larger E is to cause a fall in $\frac{\mu}{V(E)}$, and therefore a downward shift of the $\frac{\mu F(\theta)}{V(E)}$ curve. In Figure 1a, the effect of that downward shift is to lower the equilibrium value of θ , and therefore also that of $F(\theta)$. The proportion of custom-followers therefore decreases.

Formally, we specify the objective function of the government by simply assuming that the positive component of its utility increases as the proportion of custom-followers decreases while the negative component is a cost function linear in the number of E units. That is, we write:

$$\underset{E, \theta}{Max} U^P = v(1 - F(\theta)) - cE \quad (2)$$

$$s.t. \mu F(\theta) = \theta V(E)$$

where $v'(\cdot) > 0$, $v''(\cdot) \leq 0$, and c measures the (constant) unit cost. The government, acting as a principal, maximises U^P with respect to E and θ subject to the citizens' participation constraint. We assume that a stable solution exists for θ^* . Replacing E in the principal's objective function by its value in the participation constraint, the maximization problem can be simplified thus:

$$\underset{\theta}{Max} v(1 - F(\theta)) - cV^{-1} \left[\frac{\mu F(\theta)}{\theta} \right]$$

where V^{-1} is the inverse function of $V(E)$.

The first-order condition, with respect to θ , comes out as:

¹²Such an approach, it may be noted, is based on a conception of the law as a change-driver and it stands in striking contrast to the alternative view of the law as formalization of dominant values prevailing in the society. Thus, for Benabou and Tirole (2011), the law 'is not merely a price system for bad and good behaviour, it also plays an important role in expressing and shaping the values of societies'. Laws (and policies) thus reflect the knowledge that legislators (and decision-makers) have about societal preferences, and 'these same community standards are also what shapes social norms (conferring esteem or stigma) and moral sentiments (pride and shame)' (pp. 1-2).

$$v'(1 - F(\theta))f(\theta) = -c(V^{-1})' \frac{\theta\mu f(\theta) - \mu F(\theta)}{\theta^2}$$

The LHS of this equilibrium condition is obviously positive. As for the RHS, it is positive if $\theta f(\theta) < F(\theta)$. This condition is automatically satisfied if the stability condition for θ is itself satisfied.¹³ Under the same condition, the comparative-static effect of a more hostile environment on the fraction of people following the harmful norm is unambiguously negative: $d\theta/dE < 0$ and, therefore, $d(F(\theta))/dE < 0$.¹⁴

If we allow for corner solutions, the existence of which depends on the shape of $f(\theta)$, other outcomes become possible. In particular, it may happen that the government's increased effort to make the custom more costly to follow leads to its complete abandonment, as dreamed up by the proponents of the social engineering approach. This will happen if, in Figure 1a for example, the downward shift of the curve $\frac{\mu F(\theta)}{V(E)}$ is such that it now lies entirely below the identity function: in this instance, from a positive value in the $[0, 1]$ range, θ^* falls to zero. Another possibility, however, is that the government's intervention produces no impact at all. Consider the case in which the function $\frac{\mu F(\theta)}{V(E)}$ is strongly concave and lies entirely above the identity function, reflecting a situation in which the reward for custom abidance is quite large. The equilibrium is the corner solution $\theta^* = 1$. It is quite possible in this instance that an increase in E , which causes a decrease in $\mu/V(E)$, will not be large enough to lower the value of θ^* below unity.

Before moving to another analytical setting, it is natural to ask whether, given a U-shaped density function for example, the government will optimally choose θ in the range $[0, 1]$ (such as depicted in Figure 1a), or $\theta = 1$ (if the whole curve is shifted upwards in such a way that it lies entirely above the 45 degree line). The answer to that question hinges upon a comparison between the sensitivity of the people to the hostile pressure against the custom (as measured by E), that is, on the shape of $V(E)$, on the one hand, and the weight attached by the government to the objective of removing that custom, that is, the form of $v(1 - F(\theta))$, on the other hand. As it turns out, it is when the former is large in relation to the latter that the government will choose the undesirable corner solution while in the opposite case, it will choose the interior solution where fewer people (less than the complete population) abide by the custom.¹⁵

4.2 Theory based on antagonistic preferences

To analyse the deterrence effect of the law, there is an alternative to the social norm (and coordination) framework used so far. It consists of positing antagonistic preferences between alleged beneficiaries and victims of the custom: the game is played between rival claimants and what payoff one party gets is lost by the other party. A first example of this setting is a bargaining model in which two agents have diverging interests and the resulting conflicts can be settled by appealing to the court. In this framework, the cost of legal proceedings for the parties involved in the litigation represents the threat

¹³The condition for stability that we derived earlier is: $\mu f(\theta) - V(E) < 0$. Substituting the value of $V(E)$ as given in equation (1), it is straightforward that the condition can also be written thus: $\mu \left[f(\theta) - \frac{F(\theta)}{\theta} \right] < 0$. This implies that $\theta f(\theta) < F(\theta)$.

¹⁴From the participation constraint: $\mu F(\theta) - \theta V(E) = 0$, we get that $\frac{d\theta}{dE} = \frac{\theta V'(E)}{\mu f(\theta) - V(E)}$. Therefore, $d\theta/dE$ is negative if $\mu f(\theta) < V(E)$, or $\theta f(\theta) < F(\theta)$.

¹⁵The proof of that result is not straightforward and actually requires the use of explicit functions. The interested reader can find a proof by analogy in Auriol and Platteau (2017).

point, so that a law more favourable to one of the parties will increase his (her) bargaining power and lead to a Nash bargaining position closer to her preferred choice.

Following Platteau and Wahhaj (2014), let us assume that the custom is favourable to agent 1 and harmful for agent 2. We call α the degree to which the customary rule is applied (with $\alpha \in [0, 1]$). Since agent 1, who earns α , derives maximum benefit from the full implementation of the custom, her preferred choice is $\alpha = 1$. Agent 2 is in the opposite situation and her preferred choice is $\alpha = 0$, implying that the custom is not applied at all. If the conflict of interests is not settled informally, it is referred to the court which always chooses the degree of implementation f . Since the court is, by assumption, more favourable to the interests of agent 2, the party victimized by the custom, we have that $f < \alpha$. If the stake involved is set to 1, α and f are also the amounts accrued to agent 1 under the custom and the law, respectively. Likewise, $(1 - \alpha)$ and $(1 - f)$ denote the amounts accrued to agent 2. For example, the stake is the amount of parental wealth and the custom is the rule governing its distribution between a son and a daughter upon inheritance. Or the stake is the wealth of a deceased husband and the custom is the rule governing its distribution between the widow and the in-laws. Functions V_1 and V_2 measure the utilities obtained by each party from the wealth inherited. Finally, C_1 and C_2 represent costs, respectively for agents 1 and 2, of accessing the formal court, including not only the legal fees and the time spent in litigation procedures, but also the psychological and other costs that claimants incur when they use the statutory law system. Because the latter cost component is likely to hit the claimants more hardly than the defenders, it is reasonable to assume that $C_2 > C_1$. If the difference between C_1 and C_2 is not too large, we expect that a change in the formal law, which gives the weaker party (the daughter or the widow) a greater share of the wealth, would improve her utility from the threat point and lower that of the stronger party. In a large number of cases, this would also improve his (her) welfare from bargaining at the other party' expense. To see this, write the Nash bargaining solution to the problem as:

$$\alpha^* = \underset{0 \leq \alpha \leq 1}{argmax} [V_1(\alpha) - (V_1(f) - C_1)] [V_2((1 - \alpha)) - (V_2((1 - f) - C_2)]$$

Assuming $V_i'(\cdot) > 0$ and $V_i''(\cdot) \leq 0$, with $i = 1, 2$, the first-order condition is given by:

$$V_1'(\alpha) [V_2(1 - \alpha) - V_2(1 - f) + C_2] - V_2'(1 - \alpha) [V_1(\alpha) - V_1(f) + C_1] = 0 \quad (3)$$

The derivative of (3) with respect to f gives the following expression:

$$\frac{\delta \alpha}{\delta f} = - \frac{V_1'(\alpha) [V_2'(1 - f)] - V_2'(1 - \alpha) [-V_1'(f)]}{SOC}$$

Since the numerator of the above expression is positive and since the denominator corresponds to the second-order condition, which is negative in the solution to the bargaining problem, we have that $d\alpha/df > 0$. Bearing in mind that a legal reform in favour of agent 2 is reflected by a fall of f , this is seen to cause a decrease in the share of agent 1, measured by α .

Note that, if we refer to the marriage market framework mentioned at the beginning of Section 3 in connection with FGC, it is possible that the impact of the law on the situation of the vulnerable party will be undermined by the prevailing marriage market equilibrium. This is because, if women seek good husbands, the social norm can arise despite antagonistic preferences. When this is the case,

a social engineering approach will have to produce an effect large enough to affect not just individual preferences but marriage market equilibria. Legislation against dowry and domestic violence in India seems to have run against such a difficulty.¹⁶

4.3 Empirical evidence on the effect of women’s empowerment

Evidence presented in recent empirical works on the role of law in combatting harmful customs is compatible with the predictions of bargaining theory, yet not in an unambiguous and complete manner. Existing studies are mainly concerned with changes in inheritance law, the 2005 reform of the Hindu Succession Act in India, more specifically. Undertaken in some states, this reform grants the same rights to daughters and sons. Deininger et al. (2013) review the effect of the law on inheritance practices and educational outcomes and conclude that the situation of the daughters has been improved on both counts. In particular, they find that the likelihood of inheriting for a Hindu woman has increased. However, their methodology and results have been seriously challenged by Roy (2015) who convincingly shows that the reform did not increase the propensity of a daughter to inherit land, but instead increased the compensatory transfers to daughters in the form of dowries or better education. This mitigated outcome is still consistent with the bargaining approach expounded above.

Four other studies by economists have shown how the above change in the Indian inheritance law has yielded even more subtle effects on other planes of women’s life and wellbeing. Thus, Rosenblum (2015) suggests that it has had adverse effects on female child mortality. Anderson and Genicot (2015) find that it decreased the difference between male and female suicide rates, but increased both female and male suicide rates. They rely on a model of intra-household conflict to explain their results: increased access to inheritance raises a woman’s bargaining power with the consequence of engendering more conflicts over household resources. In the same line, Bhalotra et al. (2016) have highlighted another perverse effect of the inheritance legal reform in the form of increased female foeticide. The apparent reason is that the reform raised the cost of having daughters, thereby exacerbating son preference. Finally, Mookherjee (2015) argues that women’s bargaining power increased as a result of the reform, yet not at the expense of the husband but rather at the expense of the members of the extended family. Specifically, she finds that (i) the reform enhanced the propensity of young couples to reside in nuclear rather than in joint households (with the husband’s parents), and (ii) even when they reside with the husband’s parents, they are more likely to be involved in consumption decisions.

A few recent studies have examined the impact of change in inheritance laws in other countries than India. Harari (2014) explored the effects of the change in statutory law that granted women equal inheritance rights in Kenya. Exploiting differences in pre-reform inheritance rights across religious groups, she found that the reform has increased women’s education, reduced the probability of female genital mutilation, delayed marriage and improved marriage outcomes. In short, the reform has empowered women, even in a context of poor enforcement. Carranza (2012) exploited variations in Islamic inheritance law to explore the determinants of son preference in Indonesia. She shows that when the Koranic inheritance exclusion rule is strictly applied, whereby the brothers of a deceased man are inheriting his wealth unless the deceased has a surviving son, couples exhibit a strong preference for sons and practice sex-differential fertility stopping.

¹⁶We are thankful to Vijayendra Rao for having drawn our attention to this point.

Finally, Hallward-Driemeier and Gajigo (2015) looked at the effects of a reform in family law that granted more power to women in Ethiopia. More precisely, the new law provides that women do not need anymore the spouse's permission to work outside the house, that husband's administration of marital property is changed into joint administration; that divorce now requires the consensus of both partners and may only be granted by formal courts (the power of customary authorities becomes purely reconciliatory), and that the minimum age at marriage is increased to 18 years for women. Exploiting geographical variations in the implementation of the law, the authors found that it has affected both age at marriage and (young) women's occupational choice: the share of women employed in paid activities outside their home, and age at marriage, have significantly increased in the post-reform period in the regions where the law is implemented. This finding can be explained by the growing bargaining power of women within the household as a result of the law-driven shift in the threat point. In a study devoted to the same country, Kumar and Quisumbing (2015) suggest that in Ethiopia the interaction of the new family law and the process of community land registration have contributed to improve the condition of women and increase gender equality. In different ways, both reforms strengthen women's property rights, enhancing their overall bargaining power within the household.

Finally, Ali et al. (2014) have explored the effects of land tenure regularization on intents to bequeath land in Rwanda. Among other things, the legal reform aimed at improving land access for legally married women and prompting better recording of inheritance rights without gender bias. If the first objective was apparently met, the second one was only partly achieved. The authors indeed found that the legal intervention had a large and negative impact on plans to bequeath land to girls in female-headed households, in marked contrast to the situation observed for male-headed households. The proposed explanation is that, in a virilocal exogamous society, 'transferring land to females would imply putting one's old age support at risk and that doing so would be particularly challenging for female heads who may lack other support mechanisms' (p. 273).

As stressed by Guirkinger and Platteau (2016), we need more studies to confirm the impact of pro-women laws. This is because the existing studies concern a very limited number of countries, the identification problems inherent in attempts to measure the impact of legal change are particularly serious (identification is pretty weak in most of the above-reported studies), and the time frame used is excessively short. An interesting lesson that nonetheless emerges from the available studies is the following: any law aimed at modifying personal status and position within such a vital fabric as the family is bound to generate complex and indirect effects that a simple bargaining approach fails to capture entirely. This is patent when the bargaining power acquired through a new law improves or worsens the condition of women in dimensions not targeted by the legislator. The latter possibility has been illustrated by the study of Anderson and Genicot (2015) -a more gender-equal inheritance law has increased suicide rates for both men and women-, and by the study of Ali et al. (2014) -as a result of a law aimed at increasing land security for both men and women, inheritance rights for girls got worse in female-headed households. The former possibility comes out of a study based on United States concerned with domestic violence. Thus, Stevenson and Wolfers (2006) showed that switching from consensual to unilateral divorce law had the effect of reducing violence within the marriage. This is not only because violent marriage can more easily dissolve, but also because making the exit option less costly for women increases their credibility in threatening the end of the marriage.

All the foregoing examples refer to legal interventions that directly or indirectly affect women's bargaining ability over customs. There is however an extensive literature studying how economic factors can affect women's position and therefore contribute to the disappearance of unfair customs. As an example, we will discuss the relation between domestic violence and income in Section 6.

In the remainder of Section 4, we want to draw attention to an alternative approach to the problem of using the law with the purpose of combatting harmful customs. It departs from the standard social norm approach in two important ways. First, instead of playing a coordination game, individuals play a rival claimant's game, implying that they have antagonistic preferences. Second, an informal authority structure coexists with the formal legal order, thus creating a situation of legal dualism.

4.4 An alternative theory with formal-informal interactions

In the model developed by Aldashevet al. (2012a; 2012b), instead of being given, the custom is chosen by a traditional authority. This authority is intrinsically conservative, implying that it is in favour of customs that protect the interests of traditional elite or dominant groups at the expense of other people, for example, men at the expense of women. The game that depicts the social interactions between the elite and the non-elite is a rival claimant's game of the kind assumed in Section 4.2 (antagonistic preferences). The customary authority, however, may consider the possibility of reducing the retrograde character of the custom because it is also sensitive to its social influence and local power, which itself depends on the size of its jurisdictional domain. In turn, the size of its jurisdiction is determined by the number of local residents who seek and abide by its judgement when a conflict arises. This is where the statutory law performs its role. By assumption, it is more progressive than the custom and, therefore, people disadvantaged by the custom may be induced to appeal to the modern court which strictly applies the law. Yet, they will actually do it only if the value of the more favourable judgement obtained in the court exceeds the cost of circumventing the customary authority (or ignoring its judgement), which includes not only the cost of going to the court but also the cost of calling that traditional authority into question.

A central result of the above theory is what the authors have called the 'magnet effect of the law': a more progressive law may induce the traditional authority to change the custom in the same direction. Although the custom will not move as far as the law, it is transformed to the benefit of the disadvantaged sections of the population. In this way, even the victims who choose to stay within the traditional jurisdiction will benefit from the legal reform, albeit indirectly. The underlying mechanism is the following: by improving the exit opportunity available to these groups, the law enhances their bargaining strength. Their members can now threaten to appeal to the modern court and the customary authority, which acts strategically, changes the custom to prevent the threat from being carried out.

Another result, which cannot be obtained by the bargaining theory sketched in Section 3, is that too radical a law may defeat its purpose in the sense that the interests of the intended beneficiaries (say, the women) may be eventually harmed rather than promoted by the legal intervention. A plausible mechanism becomes evident once the model is refined by allowing modern judges to behave in a way similar to the customary authority. More precisely, the modern judges now have their own, intrinsic and idiosyncratic preferences about the law and, in deciding about the actual settlement of a case,

they balance the cost of departing from their preferred outcome if they were to implement the law strictly against the benefit of doing what they are supposed to do, that is, to apply the law (they obtain a positive utility from law abidance). There exists a threshold value of the statutory law above which a judge will stop passing judgements prescribed by it and start to follow his (her) own preferred judgement. Since there are as many such thresholds as there are values of the preferred judgement among the modern judges, a radical law might deter a significant proportion of the judges from applying it strictly so that these judges will now choose to provide judgements according to their own, more conservative preferences. The overall effect may be to decrease the expected value of the judicial outcome for the disadvantaged people whom the law seeks to protect (Aldashev et al., 2012b).

Note that the same argument can be actually applied to modern law enforcers. Legal enforcers have a preference for enforcing the legal verdict, which is their formal duty, but suffer a loss of utility increasing in the distance between this verdict and their preferred outcome. If the distance becomes too large, they stop enforcing the law (Platteau and Wahhaj, 2014, p.659). Such a line of reasoning has been persuasively followed by Kahan (2000) on the basis of US evidence. According to him, the resistance of law enforcers sometimes confounds the efforts of law makers to change social norms.¹⁷ Kahan concludes that the pathology of ‘sticky norms’ can be surmounted if law makers apply ‘gentle nudges’ rather than ‘hard shoves’. When the law embodies a relatively mild degree of condemnation, the desire of most decision-makers to discharge their civic duties will override their reluctance to enforce a law that attacks a widespread social norm.

In their works, the authors of the ‘magnet effect’ theory have provided a number of illustrations in support of their approach. Interestingly, most of these examples deal with issues of gender, with a particular focus on inheritance practices in poor countries of Asia and sub-Saharan Africa. It is worth noting that, in the above-reviewed empirical studies pointing at an effect of legal reforms on customary practices, the presence of a magnet effect cannot be ruled out and may actually be part of the bargaining argument invoked by their authors. This is particularly evident in the case of the study of Roy (2015) where the impact of the Hindu Succession Act is shown to be partial and gradual, operating through compensations rather than through changes in the inheritance practices themselves.

Before turning to our next task, it is useful to briefly mention another recent analytical effort to understand the possible backfiring effect of radical laws. The authors of this theory, Acemoglu and Jackson (2016), focus on the role of whistle-blowing by law-abiders as an instrument of law enforcement. In their model, the agents have heterogeneous preferred behaviour over the norm, which is measured continuously. The law sets a maximum value of the tolerated behaviour of the individuals who are randomly matched. In line with the social norm literature, a behaviour is a social norm in the sense that an agent is better off if he (she) matches his (her) behaviour with the expected average behavior in the society. In the model, a law-breaker can be detected in two different ways: by the state with a positive probability, or by being whistle-blown by the agent he (she) has been randomly matched with, if the latter is law-abiding. Whistle-blowing happens because the law-abider’s utility decreases when the behaviour of the other agent departs from his (her) own. The former may therefore react

¹⁷For example, as legislators (in the United States) expand liability for date rape, domestic violence, sexual harassment, drugs, and drunk driving, not only do prosecutors become more likely to charge, jurors to convict, and judges to sentence severely (our second line of argument), but also the police become more likely to arrest the culprits and enforce the legal verdicts.

by denouncing the law-breaker who, once discovered, is forced to adjust his behaviour to the level allowed by the law. In this setting, and under some conditions, laws which are too radical with respect to the existing social norm can backfire, because there will be little whistle-blowing and then little enforcement. This mechanism is clearly different from that operating in the magnet effect theory. What needs to be stressed is that the interaction framework posited in the theory of Acemoglu and Jackson, random matching, is better suited to deal with norms of public conduct in situations of repeated bilateral transactions than to deal with harmful norms from which one set of agents suffer at the hands of another group.

5 Changing preferences

5.1 Preliminary considerations

A limitation of the models discussed in Sections 3 and 4 is that they rely on the transparency and the credibility of the legal intervention: to change expectations, agents must not only be reasonably well informed about the content of the law, but they must also believe that other agents will also expect the law to be effective. The latter requirement means that payoffs will not be changed unless the threat of punishment for law-breaking is credible. It is nonetheless a known fact that laws that criminalize customary practices and protect human rights often remain dead letters. This is especially true for developing countries where the legal system is weak, and it is also true whenever laws are introduced under severe international pressure but without a true commitment by the government to implement them. To cite just one example among many, when in Senegal the law to ban FGC was voted, the member of parliament who introduced the bill in the parliament was quoted claiming that the government will not seriously apply the law (Hecht, 1999 cited in Shell-Duncan et al., 2013, p. 817).

The analytical framework used in Section 4 can throw light on the government's credibility issue. Thus, a low commitment of the government or the ruler can be represented by a small value of the weight attached to policies aimed at removing harmful customs. In such conditions, it is easily shown that the government will choose a low value for E and many people will continue to follow the custom.¹⁸

An additional limitation of legal interventions is that they do not necessarily change the perceptions that right-holders have of themselves. A law can protect a woman against domestic violence, but if the woman does not perceive herself as a victim and as a right holder, it is quite likely that she will not be able to escape violence.

The process through which victims of unfair customs can change the perception they have of themselves is therefore a crucial element in achieving change through a social engineering approach. They must first realize that they are victims of a discriminatory treatment and, in a second step, that they have the right to be in a better situation (Merry, 2009; Nussbaum, 2000, p.140). The problem is that individuals tend to internalize and appropriate the system of values they live in. No change can obviously take place if the status quo is not called into question. Coming back to the example of

¹⁸ Assume that the positive component of government's utility, $v(1 - F(\theta))$, has the following specific form: $v = W(1 - F(\theta^*))^\beta$, where W is a constant and $0 < \beta < 1$. A government with a low (high) credibility is then represented by a low (high) value of W .

domestic violence, available data in 2012 show that 29 per cent of women in countries with available data considered that wife beating is justified when the wife is arguing against the husband, 25 per cent when she refuses sex, and 21 per cent when she burns food. In Ethiopia, 81 per cent of women justified wife beating for at least one of these reasons (World Bank, 2012, p.84). Under these conditions, it is difficult for any legal intervention to be effective, since those whom the law seeks to protect do not consider themselves as victims.

5.2 The effect of preference heterogeneity

For social change to happen, a process of awareness-building must clearly take place so that women, or other victimized groups, develop their capacity to aspire and exert voice (Appadurai, 2004). The social norm setting described in Section 3 provides us with a first approach to explore the role of preference changes.

In order to facilitate the discussion of the effect of the shape of distribution $f(\theta)$, we start by considering an initial situation in which $f(\theta)$ is U-shaped. With respect to the utility function $U_i = \mu F(\theta) - \theta_i V(E)$, we assume that E is set in such a way that $V(E) = \mu$. Since we want E to be fixed, it is immaterial how we set its value. We then have that the $\frac{\mu F(\theta)}{V(E)}$ function is transformed into the cumulative distribution function $F(\theta)$. In Figure 2a, the intersection point between the transformed function and the identity function may therefore be interpreted as an equilibrium (in this instance, as it should be, the function is equal to zero when $\theta = 0$ and to one when $\theta = 1$). We know that this equilibrium is stable. To suppress the custom entirely, what is required is a shift from that interior equilibrium to the corner equilibrium $(0, 0)$. Since the latter is not a stable equilibrium accessible with the initial distribution $f(\theta)$, the shape of that distribution has to be altered. If the transformation results in a cumulative distribution function that has the shape depicted by the dotted curve in Figure 2a, the desired shift occurs and the harmful custom disappears. Concretely and in full accordance with intuition, this means that a bunch of people who initially had a relatively low aversion to the custom must become more averse so that they move rightwards on the cumulative distribution function (CDF). The move must be important enough to ensure that the $F(\theta)$ curve does not anymore lie above the 45 degree line even in the range close to $\theta = 0$.

Returning to the example of domestic violence (and assuming that the practice crucially depends on the number of people following it), the implication is that individuals who tend to consider the practice as legitimate should be targeted in any awareness-raising campaign. The problem is that they may also be the most difficult to persuade of the desirability of a behavioural change. Much easier, as many NGOs have experienced, is to work among women with a moderate aversion to the harmful custom. As is evident from Figure 2b, changing the attitudes of people located to the immediate left neighbourhood of A will cause a shift of equilibrium from A to A' . This is of course a much more modest move than the one envisaged in Figure 2a, but it may turn out to be the only one feasible at least in the short or medium term.

Note that a different initial distribution of preferences would lead to different predictions in terms of identification of the people whose preferences should be moved. Consider the case of a logistic or a normal distribution with two possible equilibria, one where everybody follows the custom and the other where nobody does (see Figure 1c). To transform such a game in a way that only the $(0, 0)$ equilibrium

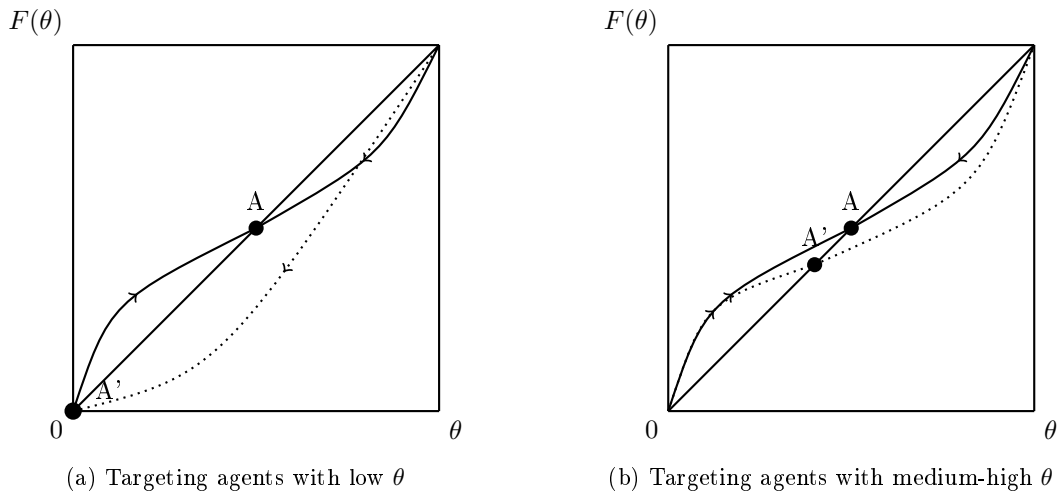


Figure 2: Examples of changing preferences

is accessible, people to the center-right of the distribution, that is people with medium-high aversion to the custom, should be targeted for preference change. In this case, moving people with low aversion to the custom would not radically affect the equilibrium outcome.

5.3 The role of opinion leaders

There is an alternative way in which we can interpret the variable P used in our basic model. We can indeed conceive that there is a continuum of individuals of equal mass but some individuals carry more weight than others. In this case, $f(\theta)$ measures the influence that individual θ wields over the rest of the population. The cumulative function $F(\theta)$ is re-interpreted accordingly. It follows that a move from the continuous line to the dashed line in Figure 2a can be obtained by targeting effort to change preferences on the influential individual who was initially rather tolerant toward the custom. The mass of followers will then automatically modify their opinions in the same direction. More sophisticated approaches to the role of leaders in changing public opinion have been proposed such as the ones proposed by Bidner and Francois (2013) and by Acemoglu and Jackson (2015).

The role of ‘opinion leaders’ in facilitating change has been studied in different domains such as technological adoption, health, and education. The challenge is to identify those opinion leaders and target them, which can be seen as trying to define the network structure that matters for a specific innovation.¹⁹ Thus, in a study concerned with FGC, Diabate and Mesple-Soms (2014) found that Malian migrants to non-FGC countries play an important role in influencing decisions about FGC when they come back to their village (after controlling for selection into migration and return migration). Having observed attitudes in a non-FGC country, they come home with changed opinions on the custom and they eventually become important vectors of change. This finding confirms the conclusion reached in well-identified studies that show the positive effect on existing norms and practices of the

¹⁹Interesting insights can be derived from the theory of social networks (Goyal, 2012; Easley and Kleinberg, 2010; Jackson, 2008). In particular, if an agent influential in terms of the number of direct links that he (she) possesses (degree centrality), in terms of the total number of agents to whom he (she) is linked, either directly or indirectly (Katz centrality), or in terms of the importance of the agents to whom he (she) is linked (Eigenvector centrality)?

exposure of leaders to ‘progressive’ external contexts. For example, Docquier et al. (2016) show that in Moldova people with a migration experience in Western Europe tend to vote for more liberal parties than those who migrated to Russia and ex-Soviet republics. Similar findings have been reached for Mali in West Africa (Chauvet and Mercier 2014; Chauvet et al. 2016).

Turning to more anecdotal evidence, in Sourif, a small Palestinian market town not far from Hebron in Cisjordania, a young woman called Ayah Baradeya was murdered by her uncle on the grounds that she entertained ‘improper relations’ with a university comrade who wanted to marry her. The discovery of her dead body one year later (May 2011) aroused a wave of angry reactions among the local community. The important point is that one brother of Ayah, an educated young man, played a key role in the protest movement and succeeded in persuading his family to forsake its customary right to impose a collective punishment on the whole murderer’s family (expulsion from the area) in revenge for the crime. He and his close friends and collaborators also used the opportunity to convince their village community and neighbouring communities as well to change an erstwhile practice that harmed the people. Following massive street demonstrations (first in Sourif, then in Hebron and Ramallah) and protests via internet, the Palestinian Authority eventually decided to rescind a law which punished honour crimes very leniently. It is interesting to observe that earlier initiatives to change the criminal code ended in failure owing to the strong objections of powerful conservative members of the Palestinian Parliament who themselves belong to big patriarchal families.²⁰

To the extent that the social norm framework is an appropriate way to address the issue of harmful customs, it still provides us with only a stylized approach to preference change. We need a better understanding of how individual preferences can be changed practically. Economists have paid a lot of attention to the impact of better information on the situation of disadvantaged groups, including women. Some studies conclude that this impact is statistically significant and important. For example, using a three-year, individual-level panel data set, Jensen and Oster (2009) have shown that the introduction of cable television is associated with an improvement of women’s status in rural India. This improvement is reflected in perceptible decreases in the reported acceptability of domestic violence towards women and son preference (as well as increases in women’s autonomy and decreases in fertility). Other studies, however, conclude otherwise. If it is relatively easy to design interventions that improve people’s knowledge, it is much harder to get that improved knowledge translated into changed behaviour, especially when it is the only intervention made (see the survey of Oppedal Berge et al. (2017, forthcoming), which deals with early pregnancy specifically).

A major interpretative problem with many such studies, however, is that they cannot determine whether the women’s improved outcomes are the consequence of changed preferences or of empowerment understood as enhanced bargaining strength that results in greater determination to assert one’s rights and to defend one’s interests. It is quite likely that, in many cases, the two processes take place simultaneously, as suggested by Sanyal, Rao, and Majumdar (2015) who also question the pertinence of any approach strictly based on individual rationality. Using qualitative research tools, they try to elucidate the mechanisms of empowerment behind the success of the Jeevika project in the state of Bihar, India. The intervention consisted in granting women access to material and non-material benefits, ranging from microcredit loans and savings, cash transfers, skills training, etc. Its success was reflected

²⁰The event was reported in the French newspaper *Le Monde* (19th May 2011). The title of the article is ‘L’indignation d’un village palestinien met fin à l’indulgence pour les crimes d’honneur’ (Barthe (2011)).

in women’s increased physical mobility, participation, and confidence in undertaking collective action.

A central conclusion reached by the authors is that changes triggered by Jeevika cannot be grasped unless we acknowledge that individual beliefs, preferences, and opportunities are influenced by group membership or that individual outcomes are subject to social influences (for an analytical treatment, see Durlauf and Seshadri, 2016). Thus, Jeevika promoted physical mobility through mandatory meetings; reoriented identity around economic disadvantage and recasted it in conceptually familiar terms without calling for the abandonment of caste and religious distinctions; ritualized the process of coming together, infusing meetings with discipline, sanctity, and collective practices (songs, for example); enhanced new capabilities and competencies, in particular the ability to move beyond the threshold of the house, to solve problems, to arbitrate conflicts (traditionally a men’s prerogative), and to participate in the public space of debate. After seven years of continuous efforts, women’s preferences and dispositions were dramatically transformed, and long-standing normative restrictions that were constitutive of the symbolic boundary of gender gradually broke down. Access to new networks of persons, systems of knowledge, and cultural patterns led to a fundamental reconfiguration in the relationships of power at the household and community levels, and to a recalibration of symbolic and social boundaries.

6 Macro-level changes

6.1 Theory

In the previous sections, we presented two different social engineering approaches to harmful customs and their underlying theoretical foundations: legal interventions and activities aimed at changing the victims’ and the perpetrators’ preferences.

The social engineering approach, and the human rights discourse in particular, risk to associate harmful customs to a given ‘culture’ or ‘identity’, often wrongly seen as fixed over time (Merry, 2003a). Harmful customs are the result of specific socio-economic contexts: they have been established as social equilibria of games defined by particular preferences and constraints. Even if they tend to be sticky and survive to mutated conditions in the macro-environment, we cannot rule out the possibility that they will vanish in response to sufficiently large and sustained changes in the technological, economic or social environment.²¹

The effects of a changing environment are easily elucidated with the help of theoretical approaches that have been already discussed. Thus, in the social norm framework, a change in the environment favourable to the demise of a harmful custom can be represented as an increase in the cost of following it (an exogenous increase in E) as a result of greater determination of the government to fight against inefficient customs. In a simple bargaining framework, an improvement in the victims’ exit opportunities and the associated increase of their bargaining strength are the factor responsible for the decline

²¹In this section we focus on how changes in the macro-environment can change harmful customs. It is worth mentioning, however, that the two can be complements rather than substitutes: Ashraf et al. (2014) thus find that projects of school construction in Indonesia and Zambia increase school enrolment for girls belonging to ethnic groups which practice bride price. No effect is observed for girls from ethnic groups where such a custom does not exist. One possible explanation is given by the positive correlation found between bride price and educational attainment of a woman. In this context, bride price seems to favour girls’ education, and any attempt to eradicate the practice should take this dimension into account.

of harmful norms. The same interpretation also applies to the magnet effect theory. Interestingly, the authors of the latter have shown that the effect on the custom of expanded outside economic opportunities for the victims is formally analogous to the effect of a more progressive legislation. This analogy is not surprising since the operating mechanism is the same whether the triggering factor is a change in the statutory law or in the scope of outside opportunities, i.e. the conferring of increased bargaining power upon the weaker party.

Before turning to evidence attesting the role of the macro-environment in changing social norms, we want to stress that such change needs not happen. This can be shown in the framework of the magnet effect theory but also in the social norm framework. In the latter instance, assuming heterogeneous preferences, an increase in E may not be large enough to cause a shift from the initial equilibrium: this is evident if we are initially at the corner solution $\theta = 1$ and the shift of the $\frac{\mu}{V(E)}$ curve is not important enough to move from the corner solution to an interior solution. In what follows, we assume homogeneous preferences to illustrate the possibility that a norm that was initially efficient persists although it has become inefficient after a change in the macro-environment.

The game compares the effects of a rule that prescribes exclusive inheritance in favour of sons and those of the alternative rule according to which both sons and daughters inherit from their parents. The society is patriarchal and the idea is that, insofar as marriages are arranged by the parents and marriage stability is guaranteed by them as a result, women's access to land via their husbands is well secured. The growing incidence of divorces nevertheless disturbs such stability so that the exclusive inheritance rule puts single women at risk. This is especially so in a context of land scarcity when the customary rights of divorced women and widows to return to the parental household is called into question by land-hungry (younger) brothers. Parents may then wish to shift to the alternative egalitarian rule allowing daughters to inherit land on an equal footing with their brothers. The problem, however, is that a parental couple which makes the move may be disadvantaged if other parents in the community (coinciding with the marriage pool) stick to the old rule: upon marriage their sons would receive a smaller amount of land from their own family than before but they would still get no land from the bride's family. In other words, a combination of the old and the new rules hurts the innovating agent.

To better see what happens in the new conditions, consider the game presented in Table 2. In that game, which represents the initial situation, there is a unique Nash equilibrium: the two parental couples follow the rule of bequeathing their wealth to their sons only. This is the erstwhile patriarchal custom that we denote (S, S) (where S means Son). Assume that the payoffs when coordinating on the alternative rule, denoted by (M, M) (where M means Mixed), increase from $(4, 4)$ to $(7, 7)$ as a consequence of changes in the macro-environment (divorce has become more common and land has become more scarce). A critical feature of the new game is that, as the other agent plays M , the first agent earns a higher payoff by playing M than by playing S . The underlying assumption is that parents, who are perfect altruists, have additively separable utility functions in sons and daughters and the utility derived from the wealth of a child is concave. Or, due to tensions and conflicts triggered by the aggrieved party, there is a cost inherent in rule mismatch that may be borne by parents and/or the children themselves.²² There are now two (pure) NE: the one corresponding to the old custom

²²Assume that each parental couple has one boy and one daughter, and that they have identical land assets amounting to 2 units. Parents are altruists and their utility is the sum of the utility earned by their son and the utility earned by their daughter. Moreover, they attach the same weight to the utilities of their two children, say 1/2. By playing S while

Table 2: A game of inheritance rule

		Parents of household 2	
		Bequeath wealth to sons only (S)	Bequeath wealth to both sons and daughters (M)
Parents of household 1	Bequeath wealth to sons only (S)	5,5	6,3
	Bequeath wealth to both sons and daughters (M)	3, 6	4,4 (7,7)

and the other corresponding to the alternative rule. The latter outcome payoff dominates the former but this does not imply that it will be selected. In fact, the old custom, (S, S) , risk dominates the alternative rule, (M, M) , and the new rule may therefore fail to get established. In this case, the exclusive inheritance rule persists although it has become socially inefficient.

6.2 Empirical evidence

6.2.1 Footbinding and female genital mutilation

In the above sections, we have mentioned FGC on several occasions. The recent emphasis on FGC as a social norm - and therefore on coordination - has at least partially originated from the parallel between this custom and footbinding in China. As accounted in Mackie (1996), footbinding can be interpreted as a social convention: the act of binding the feet of a girl signals her good qualities, such as modesty. Not doing it in a context where everybody follows the practice would leave the girl unmarried. Appeared in the Sung dynasty (960-1279) and ‘spread by imitation until people were ashamed not to practice it’, it became normal practice by the Ming dynasty (1368-1644) and lasted for no less than 1,000 years (Mackie, 1996, p.1001). It suddenly ended during the years culminating in the 1911-1912 revolution. Mackie argues that the central factor behind the rapid disappearance of footbinding consisted of the campaigning efforts of the natural-foot movement identified with liberal modernizers and women’s rights advocates. By analogy, FGC could be fought in the same way (pp. 1013-14).

Another explanation of the demise of footbinding nevertheless exists in the anthropological literature, and it emphasises the critical role of the economic environment. Thus, Gates and others (Gates, 2001; Bossen et al., 2011; Brown et al., 2012) highlight the importance of quickly changing economic conditions during the twentieth century as the most powerful engine behind the collapse of footbinding. They view that custom as part of an economic system that depended on women’s intensive labour, in particular in the textile sector: binding feet forced girls to become sedentary and start at an early age domestic activities such as spinning and weaving and other handwork for whose products there was a

the other parents play M , the first parental couple earns: $U_{S,M} = 1/2U(3) + 1/2U(1)$, where the first term denotes the utility derived from the son’s situation (the son obtains two units of land from his own parents and one unit through his wife) and the second term the utility derived from the situation of the daughter (she obtains zero unit from her own parents and 1 unit through her husband). Using analogous reasoning, the utility earned by parents when they play M while the other parents play M is: $U_{M,M} = 1/2U(2) + 1/2U(2)$. If the utility components have a concave shape, it follows that $U_{M,M} > U_{S,M}$.

high demand. More importantly, they argue that footbinding declined when industrial textile production - more efficient and cheaper - developed on a large scale, which undermined the competitiveness of women's artisanal, home-based production. Using quantitative and qualitative data collected in different rural areas of China, they find suggestive evidence that the presence of footbinding coincided with the presence of sedentary economic activities for women.²³ Furthermore, the timing of its demise corresponds to the emergence of industrially produced textile products on the local markets.

In the same vein, Fan and Wu (2016), build a marriage-market model to explain the rise and demise of footbinding: assuming a preference for footbinding, the authors define the custom as a costly pre-marriage investment which becomes relevant when there is growing heterogeneity in the men's quality. Footbinding arises first among upper-class women, where the opportunity cost of footbinding is lower. While benefits from marrying-up increase, footbinding spreads among working class women. However, for them the loss of physical ability due to footbinding decreases their value on the marriage market. The decision to practice the custom will therefore depend upon the women's role in the labour market. In this setup, an increase in the opportunity cost of footbinding due to technological change can affect the equilibrium outcome.

According to the authors, and in line with the work of Gates and co-authors, the demise of footbinding was caused by the decline of household-based textile work and increased labour opportunities in factories, which require women to be mobile. Finally, they empirically establish that, at the county level, higher suitability of rice relative to wheat (women have a comparative advantage in rice production) is associated with less footbinding among working-class women. On the other hand, a comparatively high suitability of household handicraft work is correlated with a larger incidence of footbinding.

Returning to FGC, we pointed out in Section 3 that the practice can be analysed as an investment in the girl for the marriage market. If this is true, FGC could be replaced by an alternative investment in the girl's education. There is, indeed, evidence that FGC is negatively correlated with female education virtually in all the countries where it is practiced (Wagner, 2015). Even though the causality of this relationship has not yet been established, the correlation suggests that changes in the labour/education market can affect the custom.

The contribution of macro-level forces to the erosion of the above two customs does not exclude a role for the social engineering approach which can potentially accelerate preference change. Thus, although no firm empirical evidence exists, the disappearance of footbinding in China, which has been triggered by economic changes, may have been facilitated by political campaigns clamouring for its demise.

²³In Fujian, in the south-eastern part of China, different counties presented heterogeneity both in the incidence of footbinding and the type of activities available for women. In Tong'an, where weaving and spinning persisted over time and there was little agricultural land, 32 per cent of living informants have been bounded during their life (92 per cent of their mothers). In Hua'an county, where textile activities have been replaced by portage, only 17 per cent of living informants have been bounded (against 91 per cent of their mothers). In the interviewed villages in Nanjing, 9 per cent of the informants and 56 per cent of their mothers experienced footbinding: this was a poor area, with little spinning and weaving and where women were employed in agricultural activities (Gates, 2001).

6.2.2 Early marriage

The same lesson seems to apply to early (and forced) marriage, another custom which has negative consequences on women's health and wellbeing and which, in some cases, has also been interpreted as a social norm giving rise to a coordination problem. In India, Maertens (2013) finds that norms regarding the ideal age at marriage shape parents' educational aspirations for their daughters, controlling for the expected returns to education. She therefore suggests that closing the gender gap on the labour market might not be enough to increase women's education attainment: marriage norms should also be changed to make them less binding.

Early marriage for girls is considered a harmful custom under the UN fact sheet on Harmful Traditional Practices Affecting the Health of Women and Children (1995). Limited evidence is available that points to the influence of economic factors on the girls' age at marriage. Thus, in Zimbabwe, Hoogeveen et al. (2003) find that negative idiosyncratic shocks to livestock decreases age at marriage for unmarried daughters. The family of the groom traditionally pays a bride price in cattle, which is an important agricultural asset. A decrease in livestock can then push families to marry daughters as an insurance motive. In India, in rice-growing areas, a positive rainfall shock delays marriage for girls, whose labour productivity increases (Mbiti, 2008): this suggests that increasing women's productivity could have positive impact on age at marriage. A recent paper by Corno et al. (2016) reasonably argues that the effect of economic shocks on age at marriage for girls is conditional on the underlying marriage payment system. Comparing sub-Saharan Africa where the brideprice payment prevails with India where the dowry system dominates, they find that a negative shock (droughts) on household income drives parents to marry their daughters earlier than usual in Africa but later in India. A simple equilibrium model of the marriage market is proposed to account for this intuitive result: income shocks affect the timing of marriage because the transfers that occur at the time of marriage are a source of consumption smoothing.

European history also suggests that economic circumstances matter for the shift from early to late marriage pattern. Voigtländer and Voth (2013) thus trace back the origin of late marriage in Europe to the Black Plague period. According to them, the opportunity cost of women's involvement in husbandry production rather than in grain production and children making is the key variable behind the marriage pattern for women. An empirical test of the mechanism is provided that uses detailed data from England, and the conclusion reached is as follows:

By killing between a third and half of the European population, it [the Black Plague] raised land-labor ratios. Land abundance favored the land-intensive sector –animal husbandry. Because plow agriculture requires physical strength, women have a comparative advantage in livestock farming. Hence, after the Black Death, female employment opportunities improved. Working in husbandry mainly took the form of farm service –a contract that required year-round labor services in exchange for money, room, and board. As a condition of employment, all servants had to remain celibate –pregnancy and marriage resulted in termination of employment. Because many more women began to work in the booming pastoral sector after 1350, marriage ages increased. This lowered fertility in the aggregate. In a Malthusian world, there were second-round effects: lower fertility reduced population pressure, ensuring that per capita output never returned to pre-plague levels.

(p. 2228)

To account for the differential evolution of the marriage pattern between northwestern Europe, on the one hand, and Mediterranean and Eastern Europe, and even China, on the other hand, Voigtländer and Voth propose an explanation based on the relative importance of grain and husbandry in the prevailing agricultural system, and the specific characteristics of the husbandry technology. In the Mediterranean regions, large herds could not be sustained throughout the whole year without resorting to transhumance. As a result, so they argue, there was no regular demand for women's labour services. In Eastern Europe (and China), husbandry remained uncompetitive vis-à-vis grain production, therefore reducing the need for women's labour (for a similar type of explanation, see Hartman, 2004).

6.2.3 Marriage restrictions and son preference

Customary rules governing marriage are also liable to change under the pressure of evolving economic or demographic conditions. A striking illustration of this possibility rests on anecdotal yet insightful evidence (*The Economist*, April 2015). It concerns inter-caste marriage restrictions, ranging from prohibitions of all unions between people of different castes to restrictions of marriage between people of the same village. In northwestern India, these rules are laid down by informal local councils known as *khaps*, and they are strictly enforced by them, if needed by resorting to honour killings. While these customs have been in force for five centuries, even when they were declared illegal by the Supreme Court of India, they have recently been called into question. Thus, in April 2014, the *Satrol khap*, the largest in Haryana, relaxed its ban on inter-caste marriage and made it easier for villagers to marry among their neighbours. The cause behind this rather surprising decision was the declining male-female gender ratio in the state (114 males of all ages for every 100 females in Haryana), which made marriage increasingly difficult for men. In the eyes of the customary authorities, a conflict thus arose between two aspects of their traditions: inter-caste and other marriage prohibitions and the associated value of purity, on the one hand, and marriage as a source of identity and manhood, on the other hand. In choosing to relax the former, the *khaps* aim at keeping the latter tradition alive.

Preference for sons is also defined as a harmful custom against women and it has been widely studied in economics. One of its causes is the smaller 'economic' value, and, therefore, the lower status, of women relative to men in some societies (Sen, 1992). A change in women's economic opportunities - and therefore in their valuation within the household - can affect the birth gender ratio in favour of the girls. Qian (2008) shows, for example, that an economic reform in post-Mao China, which had the effect of raising women's income, led to an increase in the survival rates for girls. That reform consisted of an increase in the relative price of tea which benefited women who play a major role in tea plucking.

6.2.4 Domestic violence

Regarding the relation between domestic violence against women and income, the evidence is contrasted. A few studies point at a negative correlation between domestic violence and income or wealth, yet they admittedly fail to properly detect causality (see, e.g., Agarwal and Panda, 2007). Other studies, however, tend to find the opposite relation (Anderson and Genicot, 2015; Luke and Munshi, 2011).

The apparent paradox is explained by the fact that, within an intra-household bargaining framework, an increase in female income can enhance women's bargaining power but, as a consequence, tensions and violence between spouses can be escalating. In this sense, it is useful to think of customs as being both the objects of bargaining and as constraints that shape the bargaining process itself, defining the limit of what can be bargained over (Agarwal, 1997).

The impact of women's empowerment on domestic violence is also the object of controversy. Some studies find that greater control over assets is associated with less reporting of violence (Panda and Agarwal, 2005), or that a reduction in the gender wage gap decreases violence (Aizer, 2010). Other studies, however, conclude that by earning independent incomes, women trigger an increase in domestic violence (Eswaran and Malhotra, 2011; Luke and Munshi, 2011). As for the study of Bobonis et al. (2013), it documents complex effects of a conditional cash transfer programme targeted to women in Mexico: if access of women to this new source of income reduces the incidence of violence, it also increases the use of threats by husbands.

In the light of the latter evidence, it is useful to bear in mind the judgements made by contemporary commentators and actors regarding the granting of property rights to women in England and the United States in the second half of the nineteenth century. Legal change followed the abolition of the laws of coverture based on the common law system. A widespread fear was that the new law (in England, the Married Women's Property Act of 1870) would reduce men's domestic authority and 'create discord in their homes'. Expanding the economic autonomy of wives would 'wantonly interfere with the relations of married life' and 'revolutionize the whole household system' (cited from Hazan et al., 2016, p.7). It is therefore not surprising that allowing women to own and hold movable capital was entirely motivated by the need to change household portfolios, stimulate financial intermediation, and reallocate labour away from agriculture. In short, what was perceived as a considerable social cost was justified by the urgent need of efficiency-increasing reforms.

There is thus serious ground to believe that the conventional bargaining framework used by economists is not adequate to the task of understanding gender and family norms. One approach, developed by Bloch and Rao (2002), consists of integrating conflict as a strategy in the household bargaining process. In a context where husbands have private information regarding their income or status, they use threats of violence to demand transfers from their wives and strategically use violence as punishment (see also Bobonis et al., 2013, for a similar effort). Relatedly, in their study of suicide in India, Anderson and Genicot (2015) model conflict as the consequence of the rejection of a bargaining offer and explore the conditions under which an increase in a woman's access to independent resources increases the likelihood of conflict.

Another approach goes beyond the conceptualization of violence as a punishment imposed on women to make them comply with their husband's demands. It would account for the symbolic reassertion of male power that domestic violence may signal. If individuals' wellbeing is harmed by threats to their identity and if power is a key aspect of a masculinity, then violence may be used to raise the salience of physical power when men lose economic power. In their seminal paper on economics and identity, Akerlof and Kranton (2000) thus argue that gender identity influences economic outcomes within the households, as deviating from the prescribed gender role entails costs.²⁴

²⁴The role of gender identity norms in shaping marital outcomes and intra-household resource allocation in the United States has recently been put to the forefront by Bertrand et al. (2015). The authors show that the distribution of the

Clearly, the role of culture cannot be ignored, hence the emphasis that we will put on it in Section 7. Again, one implication of the above review is that programmes that aim at improving women's economic conditions need to include confidence-building and identity-reinforcing activities in order to diminish the risk of domestic violence caused by changing power relations within the household (Kim et al., 2007). To be more effective, such activities should also target men.

6.3 Final remarks

Two final remarks need to be made before moving to the last stage of our analysis. First, as our above example from Haryana shows, different customs may have to be considered simultaneously rather than separately. This necessity arises when customs are interlinked, giving rise to the possibility that customs which were compatible with each other cease to be so as a consequence of changes in the environment. The consistency of the traditional system of rules is then disrupted and it may be the case that the transformation or disappearance of one custom is the only way to preserve another custom. A favourable scenario unfolds if the former (the banning of inter-caste marriages in our example) is a harmful practice while the latter (universal marriage) is not.

Another illustration of the interlinked nature of some customs is directly relevant to the main argument presented in this section. It is indeed obvious that expansion of outside opportunities for women can increase their bargaining strength only if they are allowed to participate in the labour market, which requires that norms or customs limiting women's economic or physical mobility (such as women's seclusion rules in parts of India and the Muslim world) go away. In other words, the impact of new outside opportunities on some customs (say, patriarchal rules ensuring submission of wife to husband in a series of matters) is conditional on the relaxing of a particular norm. The demise of that critical norm may be facilitated by hard economic conditions that compel parents or husbands to accept that women work outside their home on a regular basis. In India, for example, the physical mobility of married women tends to be more restricted in households belonging to high castes or high income categories. By contrast, it is considered a necessity in low-caste or low-income households (see Cassan and Vandewalle, 2016, for persuasive evidence on caste-based differences in women's mobility).

In the theory of the magnet effect, it is assumed that women can threaten to leave the family space on a more or less permanent basis. Change in patriarchal customs as a consequence of new progressive laws or new outside economic opportunities is conditioned by the women's ability to move out of the customary domain. If a strong norm prevents it, the magnet effect does not materialize and women's outcomes are left unchanged. As the historical experience of Europe attests, norms compelling women to stay home seem to have persisted in the southern and eastern parts of the continent (but not in the northwestern part) in spite of the rise of new economic opportunities (see Guirkinger and Platteau, 2016).

The second remark is rather straightforward. In the discussion of this section, we have assumed that expansion of outside opportunities for women is an exogenous force, say because it results from the natural evolution of the wider economy. In actual fact, however, these opportunities may well be promoted by public agencies and voluntary organizations in a deliberate and purposeful manner that

share of income earned by the wife exhibits a sharp drop to the right of 0.5. Men's aversion to situations where their wife's income exceeds their own, which breed domestic conflict and divorce, is explained by gender identity norms.

targets special categories of people. Effects expected will thus be quite different from those produced by a general, indiscriminate growth process that unfolds in a completely free way. And to the extent that public action tackles harmful norms in a roundabout manner rather than directly, such as when job opportunities for women are promoted, it avoids confronting customary ways of living head-on and, therefore, the perverse effects or backlash that may be caused by legal reforms and information or sensitisation campaigns do not arise or are mitigated. We now turn our attention to the mechanism liable to yield negative unintended effects of policies generally associated with the social engineering approach, the legal approach in particular.

7 The role of culture

7.1 Theoretical considerations

In all the foregoing sections, the role of culture has been overlooked: in the social norm approach, the focus is on people's desire to conform while in the bargaining and the magnet effect approaches it is placed on the determinants of women's bargaining strength, including the statutory law and outside economic opportunities. This is ignoring that social norms and customs are typically embedded in a local culture from which they derive their symbolic meaning. It is this embedding that makes them part of a community-centered rather than an individual-centered system of values, and that accounts for the deep link between custom-following behaviour and expression of identity. Violating the custom might therefore have wider consequences than what a purely rational view stressing conventional cost-benefit calculus would suggest. These effects can nevertheless be predicted in the light of the approaches presented in Sections 3 to 5.

In the social norm approach, a natural way to think about the identity effect consists of representing communities where traditional identity is strong as sets of individuals clustering around low values of θ . People deeply attached to their traditions have a low aversion toward harmful customs which are seen as an ingredient of their culture. Therefore, they are little inclined to depart from them. A related implication is that strong feelings of cultural identity tend to homogenize preferences inside the reference community, making the common component of the preferences more salient than the idiosyncratic component.

In the bargaining and magnet effect approaches, on the other hand, the cost of appealing to the modern court system is explicit. Since it includes non-material costs such as guilt feelings arising from going against the will of one's community, stronger community ties tend to make the cost of appealing large and, hence, to discourage the questioning of customary norms. The same consequence arises if severe punishment against norm-breaking (also explicitly modeled in the magnet effect approach) also results from strong community ties. It is thus evident from the theoretical framework provided in sub-section 4.2 that the interests of the victims of harmful customs are better protected as the gap $\alpha - f$ increases and as the gap $C_2 - C_1$ decreases. What we argue now is that cultural considerations that emphasise the traditional order of things (for example, traditional division of gender roles) has the effect of raising the value of C_2 relative to C_1 , so that the empowerment of the victimized group is made more difficult. A few illustrations will help to better grasp the relevance of this argument.

7.2 Empirical evidence

The example of FGC again seems appropriate. In Senegal, particularly in the Senegal river valley where Fulani or Toucouleur communities have powerful identity feelings based on their traditional culture, attempts to change customs, such as that of cutting girls, are strongly resented. Negative reactions are pervaded by the fear of Westernization of the local cultures (O'Neill, 2011, chapter 7). FGC is thus regarded as a cultural trait, or as a symbolic aspect of a traditional culture that stands on its own in the face of outside influences and pressures. It is identity-defining, and circumcision is seen as part of the initiation process that leads girls into genuine and moral womanhood (Gruenbaum, 2001; O'Neill, 2011). When this happens, outside attempts to eradicate the practice are perceived as an act of cultural aggression. Thus, laws banning FGC are seen as imposed by the Western world and arouse cultural resistance. It is therefore not rare to hear statements such as 'They want us to be like them', or 'We will not let our culture be destroyed' (Shell-Duncan et al., 2013, p.830).

In Egypt, where FGC is overwhelmingly dominant, there has been an intense debate about the introduction of a law criminalizing FGC. The government was trapped between international pressure and popular support for the practice (Boyle Heger et al., 2001), usually justified in terms of tradition, control over women's sexual desire, and cleanness (Assaad, 1980). More generally, clashing interpretations regarding the meaning of FGC can lead practicing communities to strongly resent attempts to eradicate the custom. The Western description of FGC as a mutilation which ensures patriarchal control over women's bodies and sexuality contrasts with the widespread perception among these communities that FGC does not affect marital sexual life (Fahmy et al., 2010; Shell-Duncan and Hernlund, 2000). The custom is sometimes justified on the ground that, since men's libido is weaker than women's one, a proper balance needs to be restored between the sexual desires of the two genders. Whichever the justification, the criminalization of FGC is easily seen as a manifestation of blunt Western imperialism and, to that extent, it produces the perverse effect of radicalizing attitudes vis-à-vis harmful customs, the opposite of the intended effect.

In the light of the above, it is not surprising that NGOs, which are heavily involved in sensitization work, strive to persuade villagers that the harmful practice is separable from their cultural makeup. Entry into strongly traditional communities is nevertheless quite hard for external agencies and may even prove to be infeasible, as we (Platteau and Camilotti) personally experienced (in October 2012) in the Fulani communities around the southern Senegalese town of Medinha-Gounas. Ruled by a puritan Islamist brotherhood (the Tijane) under the leadership of a powerful maraboutic family, these communities denied access to the area to Tostan and other NGOs on the ground that they were trying to destroy or subvert their local culture. This said, it is also possible that, behind the screen of cultural resistance arguments, lies a strong determination of the local (religious) elite to maintain their political and patriarchal power. In other words, reference to culture and cultural identity may be tightly intertwined with the game of local politics. If this is the case, changing customary norms associated with culture is a still more daunting task as it requires some sort of political revolution.

That strong community ties backed by deep-rooted identity feelings easily lead to high costs of appealing to modern courts is evident from the following example. In 1985, the government of Ghana enacted a new inheritance law, known as PNDC Law 111. This law was designed to regulate practices of intestate succession in favour of the wives and children of a deceased man, particularly among

people (the Akans) governed by a matrilineal system²⁵. The nuclear family thus became the focus of succession, which explains why Law 111 appeared to many to be ‘an attack on customary law’ (Josiah-Aryeh, 2008, p.29). The take-up rate of litigation has been quite low, a consequence of women’s perception of the high cost of a legal recourse, typically the fear of severe sanctions in the form of separation from their children, ejection from their house, and loss of valuable family and clan relationships (Gedzi (2009, p.16-17); see also Benneh et al. (1995); Fenrich and Higgins (2001)). Due to ‘fear of spiritual reprisals from the family, family and community pressure and the strong moral sense not to wash the family linen in public’, they are reluctant to take the family members of their deceased husband to the formal courts when these members infringe on their inheritance rights Gedzi (2009, p.27). In short, most disputants prefer to solve their cases in local informal settings than in the formal court. This is not only because the procedure is less adversarial in these settings, centered on reconciliation and repair of damaged relationships, but also because reporting local affairs before an outside agency generally arouses the grave accusation of betrayal of the community and the family. Interestingly, the few women who seek formal litigation to defend their rights are strong characters, often with a comparatively high level of education (and outside option), and ready to defy the social pressure and threats emanating from the extended family.

In the same line, resistance against a recent law criminalizing domestic violence in Russia seems to have partly come from women who are reluctant to report violence if this is going to send their husbands or partners to Russia’s harsh prisons (*The Economist*, January 28 p. 22).

In a field study on female domestic violence in the Hawai’i, Merry (2003b) analyses the complex process through which battered women develop, or fail to develop, a (human) rights-defined self with respect to violence. The implied shift in identity requires to move away from a sense of self based on family, kin and community to one relying on state protection. It is moreover argued that, until the end of the whole prosecuting process, support by formal institutions (police, court, etc.), and by family and friends, are important determinants of a victim’s ability to pursue the charges against the abuser. Local women’s shelters and support groups also turn out to play a crucial role in forging the new sense of identity and in raising the victims’ use of the legal tool. The fact that support from family and friends remains important for the assertion of ‘human rights’ nonetheless shows that it is not realistic to expect victims to completely and quickly sever emotional links with their informal universe.

8 Conclusion

How to fight against harmful customs is a complex issue that has attracted renewed interest during the last decades, particularly when the so-called human rights approach came to center stage. Economic analysis can be quite useful to clarify a number of aspects related to this issue. The dominant model in the minds of the proponents of the new approach precisely corresponds to a well-known game of strategic interactions: a coordination game with multiple (Nash) equilibria which are not equivalent in social efficiency terms. It provides a strong rationale for the enacting of pro-women laws whose expressive effect should cause the socially efficient outcome to replace the bad outcome represented by the harmful custom. Unfortunately, things are not so simple, and there is little empirical evidence

²⁵The example is taken from Platteau and Wahhaj (2014).

supporting a social norm story based on coordination incentives. The most naïve underlying assumption is the idea that all the people dislike the custom and follow it only because they hold pessimistic expectations about others' behaviour.

Much more realistic is the alternative assumption that people have different preferences regarding the desirability of the custom. Allowing for preference heterogeneity complicates the problem quite a bit: the impact of the law now depends critically on the distribution of individual preferences, even if we restrict our attention to its 'expressive' function. If the distribution is bimodal with many people strongly averse to the custom and many people strongly supporting it, or if the distribution is uniform, just enacting a pro-women law will be of no avail since the (stable) equilibrium is unique. By contrast, when many people have a moderate aversion to the custom, the law can possibly act as a new focal point with the effect of destroying the harmful custom.

Therefore, to eradicate harmful social norms, interventions aimed at modifying individual preferences or payoffs are often required. Modifying preferences is typically not done with the help of legal means. It requires the intervention of NGOs operating at the grassroots level and/or the staging of nationwide awareness campaigns. Identity-recasting and confidence-building actions must aim at making people aware that they are the victims of a discriminatory treatment and that they are entitled to be in a better situation. Again, it is probably too much to expect that a radical departure from the bad customary habit will result from them. Given the difficulty of converting the most ardent supporters of the custom, it is reasonable to bank on its partial rather than complete abandonment.

Modifying payoffs can be achieved either through legal mechanisms or through well-targeted public policies. In the former case, violation of legal prescriptions must trigger sufficiently severe sanctions, which implies not only that punishment is sufficiently severe and actually meted out, but also that the detecting of violations is sufficiently effective. Or, alternatively, quasi-legal means may be used, such as when public agencies create a 'shaming' environment that increases the cost of following the custom. The impact of these interventions may be the total or the partial disappearance of the custom, or it may be nil depending upon the initial distribution of the preferences.

Payoffs can also be modified as a result of deliberate economic policies, or endogenous economic processes that have the effect of expanding economic opportunities for the victimized sections of the population, or of changing the costs of following the custom. A great advantage of this approach, compared to the legal approach, lies in the fact that, being indirect, it avoids a head-on confrontation with the tradition and the identity-defining culture in which it is embedded. Changes appear to be imposed by abstract forces that are beyond the control of customary authorities, and they better allow for face-saving among the upholders of tradition. The opposite happens when pro-women lawmaking is clearly inspired, or influenced, by the universalistic norms and values originated in the Western world.

Instead of examining the role of outside economic opportunities within a social norm (and coordination) framework, we can use the lens of a bargaining setup in which men and women have antagonistic preferences. Outside economic opportunities then appear as conferring enhanced bargaining strength upon women. Legal reforms can be analysed as another way to increase their negotiating power, and it has in fact been shown that the effect of pro-women laws on harmful customs is formally analogous to that of new economic opportunities available to women (Aldashev et al., 2012b; Platteau and Wahhaj, 2014)). The idea is that in both cases women can threaten to exit from the traditional judicial domain

and escape the rule of the associated customary authority: they either appeal directly to the formal court system, or they seize economic opportunities outside their home and in this way hopefully place themselves under the purview of the new legal system.

In a bargaining framework, legal reforms and the development of outside economic opportunities should not be considered exclusive: both strategies can actually add up their effects. However, the fact that they are not complements means that one can be used in preference to the other if circumstances make either strategy relatively difficult to implement. Two main limitations indeed jeopardize the success of the legal reform strategy. First, if the law needs to yield a deterring effect, and not only an expressive effect, it must be credible, implying that the court system works impartially and effectively. Second, as hinted at above, it involves a head-on confrontation with traditional culture, entailing the risk that preferences in favour of the custom become radicalized and other perverse effects arise.

On the other hand, the major limitation of the economic approach is that, in order to work, it must be the case that women are able to move, or threaten to move, to locations outside their home where new economic opportunities are available. Seclusion norms can precisely prevent that outcome from occurring, indicating that one social norm may inhibit the change in other anti-women norms (say, norms associated with patriarchal control). Therefore, traditional social norms are better seen as interlinked inside a customary system and, when this is done, different situations can arise.

For example, macro-level forces or policies (economic, demographic, technological) can undermine all anti-women norms or customs, but over different time frames. In other words, all customs are eventually transformed yet some are more sticky than others. Alternatively, economic (or demographic) changes can break the complementarity between various parts of the customary system by significantly increasing the cost of following some norms while leaving unchanged the cost-benefit structure pertaining to the other norms. The best scenario unfolds when anti-women norms are those under attack, and the worst scenario corresponds to the opposite case. It is under this second scenario that the law should lend a helping hand to economic processes and strategies. Unfortunately, the same noxious custom that withstands the pressure of economic change may also put up strong resistance against law-induced change. This is probably the situation that most evidently calls for a combined effort on the three fronts of a broadly conceived social engineering approach: economic policies, legal reforms, and preference change. The latter component of the overall strategy, which together with legal reforms forms the basis of the human rights approach, can be achieved by all the actors and organizations working in close relationship with the women who are victims of abuse. In particular, community-based projects have the advantage of being based on a deep understanding of the local context and on long-term relationships with the victims, a setting that better enables them to transform the victims' perception of themselves.

The role of awareness- and confidence-building campaigns, and of identity-recasting interventions, is also justified when economic forces or strategies take a rather long time to produce their effects. When women's empowerment is thus slow to materialize, the struggle to achieve gender parity must be supported by reforms and institutional interventions directly addressing the problem (Dufflo, 2012).

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