

Eradicating Women-Hurting Customs: What Role for Social Engineering?

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How to fight women-hurting custom? An historical perspective

- Organic approach (1950s): social norms, customs and other cultural traits will evolve with economic growth (Lewis, Bauer and Yamey...).
- Non economic factors can constrain the ability to seize economic opportunities; they are themselves component of individual well-being (Sen)
- Since the 1980's, human rights used to justified interventions against harmful customs (ex: CEDAW).

The social engineering approach

- Definition: targeting directly harmful customs on the base of human rights principles and treaties.
- Two types of interventions:
 - laws;
 - sensitization campaigns and community based programmes to create rights-consciousness.

This paper

- Identify the analytical underpinnings of the social engineering approach.
- Discuss the role of economic factors in changing women-hurting customs.

Social engineering approach: theoretical background

- **Legal interventions** against a custom:
 - expressive effect of the law = law as a focal point in a coordination game;
 - deterrence effect of the law = rival claimant game with the law being a bargaining tool
- **Right-consciousness creation** = preference change (in a coordination game).

Outline

- 1 Introduction
- 2 Legal interventions
 - Expressive effect of the law
 - The deterrence effect of the law
- 3 Changing preferences
- 4 Macro-level changes
- 5 The Role of Culture
- 6 Conclusion

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The expressive effect of the law: homogenous preferences

- Female genital cutting (FGC) game : coordination game with two Nash-Equilibria (FGC= social norm).
- How to move from the (Circumcise, Circumcise) to the (Reject, Reject) equilibrium?
- The law banning FGC can act as a focal point → coordinating expectations over the new equilibrium (Cooter,2000; McAdams, 2000).

Representing the coordination game

Table: A game of female genital cutting

		Parents of household 2	
		Cut daughter	Reject the practice
Parents of household 1	Cut daughter	$\underline{\mu - \theta V}, \underline{\mu - \theta V}$	$-\theta V, 0$
	Reject the practice	$0, -\theta V$	$\underline{\mu}, \underline{\mu}$

where μ is the benefit of coordination, whether derived from coordinating on cutting or not cutting. When coordination is on cutting, parents also incur a cost, denoted as θV , where θ is the health risk to which girls are exposed when cut and V is an amplifying factor created by the external environment.

The expressive effect of the law: homogeneous preferences

In this game, there are three Nash equilibria: two in pure strategy and one in mixed strategy.

In the mixed strategy equilibrium, 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, 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.

The bad equilibrium is then a focal point, but 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.

The expressive effect of the law: homogeneous preferences

The above game is important because it has been very influential among NGOs, such as TOSTAN, and international organisations, such as UNICEF.

Issue of equilibrium selection:

The risk dominant equilibrium turns out to be (R, R) , which is also the payoff dominant equilibrium.

There is thus no dilemma between social efficiency and risk dominance, such as happens in the stag-hunt game.

Although players are uncertain about the other players' actions, they will evolutionarily select the Pareto-superior equilibrium: the theory of risk dominance predicts that the practice of FGC should not be observed.

The expressive effect of the law: empirical evidence

Empirical evidence does not appear to bear out the simple coordination game story:

Bellemare et al. (2015); Efferson et al. (2015); Vogt et al., 2016; Camilotti (2015a, 2015b); Novak (2016).

Overall, the results suggest that the conceptualisation of FGC as a coordination game in which agents' preferences are uniformly biased against the harmful custom, might be misleading. A legal ban of FGC will perform poorly if expectations regarding other people's behavior are not the leading determinant of behaviour.

Scepticism about the relevance of the simple coordination game confirms the doubts raised by our discussion of risk dominance.

The expressive effect of the law: heterogeneous preferences

Assumption behind coordination game above: identical agents.
What if preferences over the custom are heterogeneous?

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

- with $u(P) = \mu P$, $u(0) = 0$, $u(1) = \mu$.
- $u(P)$: utility of following the custom depends on number of people abiding by it
- $\theta_i \in [0, 1]$ individual aversion towards the custom; distributed according to pdf $f(\theta)$ and CDF $F(\theta)$
- E : legal environment against custom; $V'(E) > 0$

The indifferent agent: equilibrium point

- call : $\theta_i = \theta^*$ the indifferent agent: net utility from the custom is equal to zero,
- then: $P = \int_0^{\theta^*} f(\theta)d\theta = F(\theta^*)$
- The utility of the indifferent agent is such that:

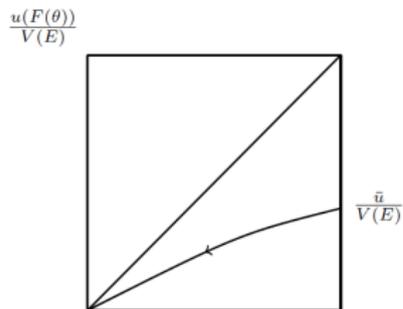
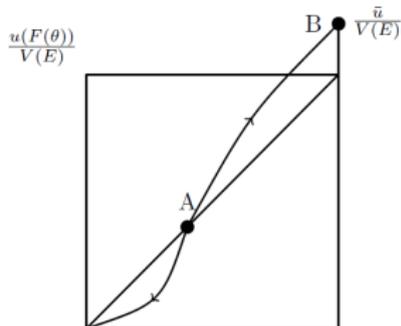
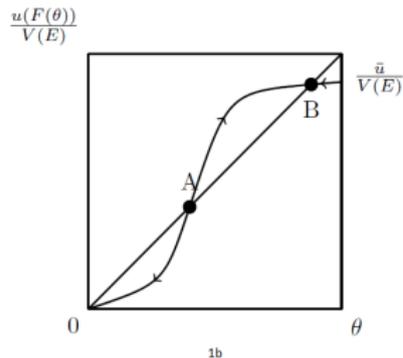
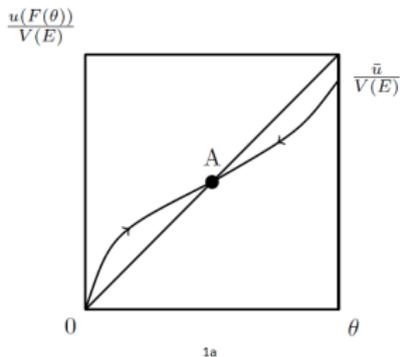
$$\frac{u(F(\theta^*))}{V(E)} = \frac{\mu F(\theta^*)}{V(E)} = \theta^*$$

- where $F(\theta^*) = P$, the proportion of people that abide by the custom

Restricting the number of possible equilibria

- There are many Nash equilibria in the static coordination game.
- In order to narrow down the range of possible equilibria, we bring some dynamic in the game and impose the condition of stability:
- At each point of time there is a probability that a new agent is added to the pool of existing members. Drawn at random from the set $[0,1]$ according to $f(\theta)$, he (she) enters the pool of members with a given θ^a , and chooses to abide by the custom if $\mu F(\theta^*) > \theta^a V(E)$, where $F(\theta^*)$ is the equilibrium point before the entry of the new agent.
- Formally, the stability condition is written:
$$\mu f(\theta^*) - V(E) < 0.$$

Examples of equilibria



Insights from the model with heterogeneous preferences

- 1 Distribution of preferences matters
 - 1 only existing equilibria can be reached through a change in the focal point;
 - 2 depending on the distribution of preferences, the custom might not disappear completely.
- 2 Existing emphasis on coordination as a tool to make customs such as FGC disappear: it assumes a specific (logistic) distribution of preferences.

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Deterrence effect in a coordination game

- In the model above: increased punishment = increase in $V(E)$: downward shift in the curve $\frac{u(F(\theta^*))}{V(E)}$.
- Under some conditions, the proportion population following the custom decreases.
- Can be modeled by introducing the government maximization problem:

$$\text{Max}_{E, \theta^*} U^P = v(1 - F(\theta^*)) - cE$$

$$\text{s.t. } \mu F(\theta^*) = \theta^* V(E)$$

- cE = cost of reform; $v'(\cdot) > 0$; $v''(\cdot) < 0$.

Deterrence effect in a coordination game

The maximisation problem can be simplified thus:

$$\text{Max}_{\theta^*} v(1 - F(\theta^*)) - cV^{-1}(\theta^*) \left[\frac{aF(\theta^*)}{\theta^*} \right]$$

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

The FOC wrt θ is

$$v'(\cdot)f(\theta^*) = -c(V^{-1}(\cdot))' \frac{\theta^* af(\theta^*) - aF(\theta^*)}{\theta^{*2}}$$

The LHS is positive and the same is true of the RHS because of the stability condition. Under that same condition,

$$d\theta^*/dE < 0; dF(\theta^*)/dE < 0$$

Deterrence effect in a bargaining model: setting

Nash bargaining solution:

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

X : value of a custom favorable to agent 1 and harmful for agent 2;

α : degree of application customary rule (with $\alpha \in [0, 1]$);

f : degree of implementation chosen by the court in; $f < \alpha$.

Deterrence effect in a bargaining model: results

- Assuming $X = 1$, $V'_i(.) > 0$ with $i=1,2$ and $V''_i(.) \leq 0$:

$$\frac{\delta \alpha^*}{\delta f} > 0$$

- If the law becomes more favorable to the disadvantaged agent (agent 2) = decrease in f , then the share going to agent 1 α decreases.

Deterrence effect in a bargaining model: empirical evidence

- Empirical evidence compatible with the model exists but it is not unambiguous or complete.
- It is concentrated on the impact of the reform of the Hindu Succession Act (2005) in India: Deininger et al. (2013); Roy (2015); Rosenblum (2015); Anderson and Genicot (2015); Bhalotra et al. (2016); Mookherjee (2015).
- For other countries: Harari (2014) for Kenya; Carranza (2012) for Indonesia; Hallward-Driemeier and Gajigo (2015); Kumar and Quisumbing (2015) for Ethiopia;
- 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, and the time frame used is excessively short (Guirkingner and Platteau, 2016).

Deterrence effect in a bargaining model: empirical evidence

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. While the latter possibility has been illustrated by Anderson and Genicot (2015), the former possibility comes out of a US study concerned with domestic violence (Stevenson and Wolfers, 2006).

An alternative theory with formal-informal interactions

It departs from the standard social approach in two important ways.

- 1 Instead of playing a coordination game, individuals play a rival claimants game, implying that they have antagonistic preferences.
- 2 An informal authority coexists with the formal legal order, thus creating legal dualism.

An alternative theory with formal-informal interactions

- In Aldashev, Chaara, Platteau, and Wahhaj (2012a, 2012b) and in Platteau and Wahhaj (2014), the custom is chosen by a traditional authority who is conservative (his preferred custom favours the traditional elite) but is at the same time sensitive to the size of his jurisdictional domain.
- This size is affected by the possibility that the non elite people now appeal to the formal court, which is favourable to their interests. Hence a trade-off on the part of the customary authority.
- The non elite people also face a trade-off insofar as there is a cost in questioning the customary authority.

An alternative theory with formal-informal interactions

- *Five results of the theory are worth singling out:*
- ① The formal law may act as a “magnet” that attracts the custom in its direction, yet the change in the custom never allows the custom to coincide with the (progressive) law.
- ② The change in the custom may happen even though few among the intended beneficiaries actually appeal to the formal court.
- ③ The formal law may fail to induce any change in the custom, in which case the law appears as a “dead letter”.
- ④ Too radical a law may defeat its purpose: the intended beneficiaries may be harmed rather than helped by the new legislation.
- ⑤ There is a formal analogy between the effect of a new law and the effect of new outside economic opportunities.

An alternative theory with formal-informal interactions

- Result 4 has also been obtained in Acemoglu and Jackson (2015), yet in a completely different framework:
 - People are randomly matched pairwise;
 - A law-breaker can be detected in two ways: by the state or through whistle-blowing by the partner if the latter is law-abiding.
 - Once discovered, the law-breaker is forced to adjust his (her) behaviour to the law.
 - In this setting, too radical a law can backfire because there will then be little whistle-blowing and little enforcement.

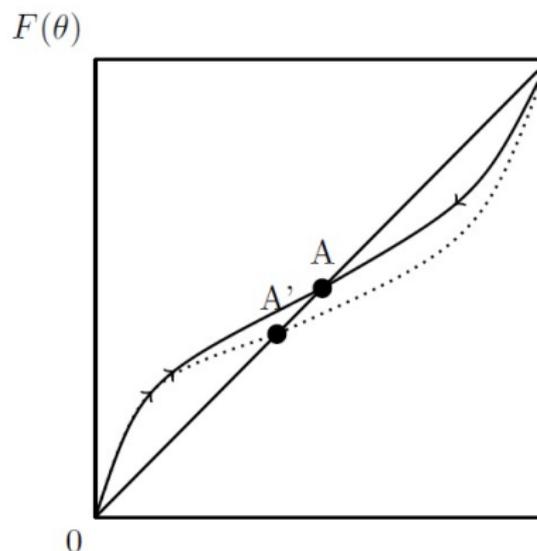
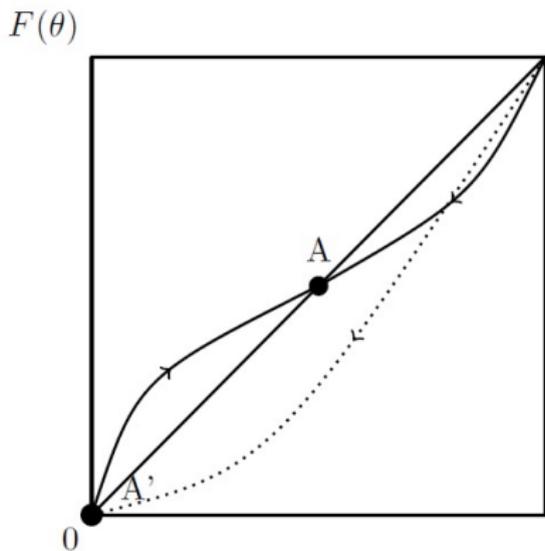
Limits of legal approach to harmful customs

- The legal approach is effective only if the law and the institutional apparatus behind are credible
 - if nobody believes that the law will be implemented, expectations will not change.
 - if the law is not enforced, the probability to be caught violating the law does not change.
- Victims must perceive themselves as such, which means that there is no problem of internalization of harmful customs. But:
 - In Ethiopia, 81% of women justify wife beating for at least one of these reasons: arguing with husband, refusing sex and burning food (WB 2012)
 - how to change such a perception?

The need for rights awareness

- 1 Community-based programmes and other initiatives using the human rights framework:
 - can play a role in creating rights awareness among women victims of harmful customs (Nussbaum 2000 , Merry 2009);
 - once aware of their rights, women can learn to exert voice (Appadurai 2004).
- 2 One way to represent this process: changing individual preferences over the custom.

Changing preferences in a coordination game with heterogeneous agents



Changing preferences in a coordination game with heterogeneous agents

- 1 Insight : depending on the distribution of preferences, whose preferences are changed matters.
- 2 Alternative interpretation: some agents are more influential than others and may therefore act as opinion leaders. There is a continuum of individuals of equal mass but some individuals carry more weight than others. $f(\theta)$ then measures the influence of individual θ .
- 3 The role of “opinion leaders” in facilitating change has been studied in different domains such as technological adoption, health, and education. Insights from social network theory and concepts such as degree, Katz, and Eigenvector centrality.

Changing preferences

- We actually observe that individuals who have been exposed to “progressive” contexts are often (yet not always) leaders of change: Diabate and Mesle-Somps (2014); Docquier et al. (2016); Chauvet and Mercier (2014); Chauvet et al. (forthcoming).
- Assuming that the social norm framework is appropriate to the task, it still provides only a stylized approach to preference change.
- Economists have given a lot of attention to the impact of better information on the situation of people whose interests are harmed. For example, Jensen and Oster (2009) on the impact of cable television on the situation of rural women in India.

Changing preferences

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.

A recent study by Sanyal, Rao, and Majumdar (2015) on the qualitative impact of the *Jeevika* project in Bihar (India) shows that the two processes tend to occur simultaneously.

The intervention's success has been reflected in women's increased physical mobility, participation in decision-making, political participation, and confidence in undertaking collective actions.

Changing preferences

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; ritualised 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. In sum: 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.

Theoretical background

- In a coordination game: a change in economic opportunities increases the cost of following the custom (represented as an increase in $V(E)$, itself resulting from an increase in V). The change in the payoffs can make the bad equilibrium disappear.
- In a bargaining model: an improvement in economic conditions increases the victims' bargaining power.
- The latter effect is also derived from the “magnet effect” theory where an improvement in economic conditions is equivalent to the enactment of a more favourable law.

Theoretical background

- 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.
- Assuming homogeneous preferences, we can illustrate that a norm that was initially efficient may persist although it has become inefficient after a change in the macro-environment. This is illustrated in the following inheritance game where there is a unique NE in the initial situation, (S,S) and two NE in the new situation, but in the new situation (S,S) risk dominates the new possible equilibrium, (M,M).

Theoretical background

Table: Inheritance game

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

Examples

- Economic change may be the cause of the rapid demise of the long-lasting practice of *footbinding* in China (Gates et al. 2001;2011; 2012; Bossen et al., 2011; Brown et al., 2012; Fan and Wu, 2016):
 - 1 Footbinding = a way to force girls to engage in domestic activities in the textile sector.
 - 2 With the development of textile industry: women's textile work stops being competitive, and footbinding disappeared.
 - 3 Yet, it may be argued that not only economic change but also preference change following campaigning efforts of the natural-foot movement (Mackie, 1996) played a key role in the disappearance of footbinding.

Examples

- *FGC*: If this practice is seen as an investment made to signal a girl's value for the marriage market (in a similar manner to footbinding), alternative investments such as female education should reduce the incidence of FGC. This has been confirmed by Wagner's (2015) study which establishes a (negative) correlation between FGC and female education for all countries where FGC is practiced.
- However, this does not rule out the possibility that there exists a marriageability convention for both FGC and footbinding, implying that expectations regarding others' behaviour play an important role. Economic changes should then be accompanied by elements of the social engineering approach, as suggested by point 3 above (for footbinding).

Examples

- The same conclusion has been reached for the harmful custom of *early (and forced) marriage*: Maertens (2013) argues that in India closing the gender gap on the labour market might not be enough to enhance women's education and thereby retard marriage: marriage norms should be simultaneously changed.
- Yet, other studies seem to suggest that economic forces alone can retard marriage for girls: Hoogeveen, Van der Klaauw, and Van Lomwel (2003) for Zimbabwe, and Mbiti (2008) for India. They deal with the effect of short-term shocks to incomes or assets.

Examples

- Another study, by Voigtländer and Voth (2013), considers the origin of the late marriage system in northwestern Europe and reaches the same conclusion: economic changes resulting from the Black Plague are responsible for a significant increase in the value of women, which caused female marriage to be postponed.
- *Son preference*: A change in women's economic opportunities can affect the birth sex ratio in favour of girls: see Qian (2008) for (post-Mao) China.

Examples

- *Restrictions on marriage*: Changes in the practice can arise as a consequence of demographic change. Thus, the decline in male-female sex ratio, which has made marriage increasingly difficult for men in NW India, led customary authorities to remove traditional marriage restrictions (Economist, April 2015). In this case, there are two interlinked norms and one had to be abandoned in order to preserve the other.
- *Domestic violence*: some studies point at a negative correlation between domestic violence and income and wealth (Agarwal and Panda, 2007), or at a positive correlation between domestic violence and gender gap (Aizer, 2010).

Examples

- *Domestic violence* (continued): Other studies, however, find the opposite result (Anderson and Genicot, 2015; Luke and Munshi, 2011; Eswaran and Malhotra, 2011). That is, an increase in income enhances women's bargaining power but this causes tensions and violence to escalate between spouses. Bobonis (2014) reports complex effects of a conditional cash transfer targeted to women in Mexico: domestic violence is reduced but threats by husbands are increasingly used.
- The conventional bargaining theory is clearly not adequate to the task. Two alternative approaches can be suggested:

Examples

- 1 Integrating conflict as a strategy in the household bargaining process, as done by Bloch and Rao (2002): violence is used strategically as a punishment aimed at extracting advantages from the spouse. See also Anderson and Genicot (2015).
- 2 Conceiving violence as a way of re-asserting male power when it is considered to be under threat, as done by Akerlof and Kranton (2000): since deviation from prescribed gender roles entails costs, gender identity shapes marital outcomes and intra-household allocation. See also Bertrand, Pan, and Kamenica (2015). This approach explicitly points to the role of culture.
- To combat domestic violence, it again appears that economic change is not enough (Kim et al., 2007).

Two remarks

- 1 Culture is best conceived as a set of interlinked customs and social norms.
 - 1 See the above example of norms regarding proper marriage and age at marriage.
 - 2 Norms restricting women's physical mobility (e.g., seclusion norms) conditions the ability of women to question prevailing gender roles in the presence of new outside opportunities.
- 2 Unlike legal actions, public policies that create new opportunities for women avoid head-on confrontation with customs and customary authorities. Cultural resistance may therefore be reduced.

Theoretical considerations

- 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.
- *In the social norm approach*: Strong attachment to local culture may be represented by a great mass of people clustered around low values of aversion to local customs.
- *In the bargaining approach*: It is reflected in high costs of appealing to formal justice system.

Empirical evidence (qualitative)

- Role of culture: if customs are perceived as a part of identity/ local culture, attempts to directly eradicate it might not succeed
 - FGC in the Senegal River Valley (Assad, 1980; Boyle Heger et al., 2001, for Egypt; Shell-Duncan and Hernlund, 2000; Fahmy et al., 2000, for Senegal).
 - Inheritance PNDC Law in Ghana (Benneh et al., 1995; Fenrich and Higgins, 2001; Gedzi, 2009).
- It is not necessarily realistic to expect complete severance with local culture: support from family and friends may be critical to reduce domestic violence (Merry, 2003).

Social engineering vs economic reforms (1)

- The impact of statutory law depends critically on the distribution of individual preferences.
- To eradicate harmful customs, interventions aimed at changing preferences and/or payoffs are often required.
 - Changing preferences necessitates well-thought identity-recasting and confidence-building actions.
 - Changing payoffs is achieved either through legal mechanisms or through well-targetted public policies.
- Using a bargaining rather than a social norm approach, new outside opportunities can be seen as a way of enhancing women's bargaining power that does not directly confront the custom. New laws theoretically wield the same effect, yet, because they involve head-on confrontation with custom, they may be less effective.

Social engineering vs economic reforms (2)

- BUT:women's empowerment does not always improve their outcomes: violence within the household may increase.
- In a bargaining framework, legal and economic actions can be seen as adding up their effects. However, that does not imply that they should be given equal roles:
 - Economic and social policies are preferable if the law is not credible and/or if head-on confrontation with the custom is better avoided.
 - Legal actions are preferable if interlinked norms prevent women from seizing the benefits of economic and social policies.
- A combined effort on the three fronts of a broadly conceived social engineering approach is generally required: economic policies, legal reforms, and preference change (targetting both men and women).