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## Research Article

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# Are gender norms systematic to caste institutions? Examining preferences through a social experiment in India

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## Abstract

In this paper we examine how traditional institutions like caste interact with socio-economic status to mediate the perception of gender roles and attitudes around female labour force participation. We use third party vignettes to directly test the validity of the hypothesis that lower castes have more egalitarian gender norms and lower acceptance of restrictions on female autonomy. We find that the relationship between conservative gender norms and caste are in turn influenced by the class status of households, measured by land or asset ownership. Lastly, we conduct a simple social experiment to test for ‘pluralistic ignorance’ and confirm the presence of systematic overestimation of conservative attitude that varies by caste and class identities.

Keywords: Gender, Caste, Social Norms, Perceptions, Vignettes, Pluralistic Ignorance, Labour Participation

JEL Codes: J16, J21, J22, Z13

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# 1 Introduction

How do traditional social institutions in developing countries influence individual and societal attitude towards gender? In the context of India, restrictions on female autonomy is presumed to be a function of caste hierarchy (Deshpande, 2002; Chakravarti, 2003; Field et al., 2010; Eswaran et al., 2013; Bidner and Eswaran, 2015; Jayachandran, 2015). However, it is empirically challenging to infer systematic variation in gender norms across castes by simply observing differences in *outcomes* since these individual ‘choices’ are dependent on preferences as well as constraints. Hence, such caste specific gendered outcomes are unable to inform us about differences in gendered preferences and norms between caste. This paper tries to document this relationship between gendered preferences and caste.

While the economics literature concerned with the question of low and declining female labour force participation (FLFP) has often alluded to the *cultural* differences between castes, there has rarely been any attempt to test such differences directly.<sup>1</sup> This is partially because the nationally representative datasets that are generally used for research collect information of outcomes and not on preferences. In the absence of data on gender attitudes (or structural estimates of parameters reflecting gender attitudes), cultural explanations are often informed conjectures.

In this paper, we use novel data about preferences collected through vignettes based primary survey to understand the differences in gender related preferences across demographic subgroups. The idea is based on the underlying assumption that any variation in rating of a vignette can be attributed causally to the socio-demographic characteristics of the individual. Using rich data on preferences we are able to *directly* test the validity of the hypothesis that lower castes have more egalitarian gender norms and lower acceptance of restrictions on female autonomy. In the specific context of support for FLFP, we conduct a social experiment to test for the presence of ‘pluralistic ignorance’: a situation where individuals systematically overestimate or underestimate societal support.

Strikingly, we find that it is not the case that lower castes have less conservative gender related preferences compared to upper castes. Neither does wealth have a monotonic relationship with conservative attitudes in all circumstances. Land and other assets have different impact on the conservative attitudes, which varies by caste groups. Lastly there is no robust relationship between an individual’s conservative attitude and his/her propensity to overestimate conservative attitude amongst their peers.

Our work contributes to three distinct strands of the literature. First, collecting rich information on individual preferences through third-party vignettes, we are able to directly test the hypothesis that lower caste households have more egalitarian gender norms. Second, our work builds on the framework of Bursztyn et al. (2020) where we find evidence of a mismatch between actual and perceived peer support toward female work, that varies by caste and class status. Third, we add to the strand of the literature that examines how gender norms are systematic by land ownership (Bhalotra and Heady, 2003; Schultz, 2006; Lal, 2019; Bhalotra et al., 2019, 2020).

The rest of the paper is structured as follows: Section 2 provides a background and introduces the research question, Section 3 describes that data and empirical strategy, Section 4 discusses the results and Section 5 concludes.

## 2 Background and Research Question

In the context of India, the upper castes are typically thought to have more stringent norms on women’s mobility on account of greater importance placed on women’s ‘purity’ (Chakravarti, 1993). *Manusmriti*, the

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<sup>1</sup>A number of studies have demonstrated that one’s own caste as well as household economic condition can significantly influence actual female labour market participation in India (Field et al. (2010), Luke and Munshi (2011), Eswaran et al. (2013), Jayachandran (2015), Klasen and Pieters (2015), Field et al. (2016), Sarkar et al. (2019)).

ancient Indian text that lays down the rules of discrimination against lower castes, is also the source of gender specific discriminatory rules against women. [Bidner and Eswaran \(2015\)](#) develop a model to show that graded restrictions on women’s autonomy is central to social architecture required for the stability of the caste system. It is the intensity of the restrictions imposed on the women of an occupational group that determines the rank of the group in the hierarchy of castes, and the causation is not the other way around. Groups where women face higher punishments than males for similar infringement of endogamy rules and where women’s interaction with out-group men are severely restricted, are ranked higher in the hierarchy. Since Brahmins and other upper castes were the groups with the strongest incentives to ensure endogamy, such groups were expected to impose the strictest restrictions of women’s autonomy.

While [Bidner and Eswaran \(2015\)](#) identifies differences in caste specific norms as the source of caste hierarchy, most other scholars accept the ritual hierarchy (purity-pollution scale) as given and then study the differences in norms across castes. [Chakravarti \(1993\)](#) draws upon historical evidence to show that ‘purity of women’ has a centrality to ‘brahminical patriarchy’ since it determines the purity of castes. It is thus expected that castes at the higher end of the purity-pollution scale imposed more stringent restrictions on the women of that group ([Liddle and Joshi, 1986](#); [Chakravarti, 2003](#)).

In the specific context of female labour force participation, [Deshpande \(2002\)](#) writes that it is not uncommon to find women withdrawing from outside household labour forces as the status of the jati improves. Using National Family Health Survey Data-Round II (1998-99), she finds that it is not the case that Dalits have more egalitarian spousal relationships than upper castes. [Eswaran et al. \(2013\)](#) demonstrate examining time-use data that labour force participation by married women is considered to be a ‘low status’ activity by upper classes and upper castes. However the authors also refer to a process of ‘Sanskritisation’ whereby lower castes adopt restrictive upper caste gender norms in an attempt to acquire higher social status.

Thus one observes that with a few exceptions, the literature suggests an inverse relationship between caste status and egalitarian gender norms. The few studies that try to provide quantitative evidence for the presence of such a relationship, do so by establishing a relationship between caste status and economic outcomes. For example, [Eswaran et al. \(2013\)](#) find that women’s market work relative to men is a declining function of caste hierarchy and that the negative impact of education on women’s market work is sharpest for the upper castes. [Field et al. \(2010\)](#) uses a field experiment to study the impact of religious and caste institutions in India on women’s entrepreneurial activities. They train a random sample of poor self-employed women in financial literacy and business skills, and find that, among Hindus, training increased borrowing and business income for upper caste women, but no impact on Muslim women. Similarly, [Deshpande \(2002\)](#) studies the variation in outcome variables like participation in household decision making, with caste.

In the context of developing countries, social connections and community networks are especially important as they substitute for the absence of markets (credit, information etc.), which are often organized along caste/*jati* lines in India ([Munshi and Rosenzweig, 2006](#); [Munshi, 2019](#)). Individuals, therefore, are likely to care about their own caste norms as well as how their community perceives about the desirability of work participation. An emerging literature shows how beliefs about one’s peer group’s support towards female work can influence their actual behavior ([Bursztyn and Jensen, 2017](#); [Bursztyn et al., 2017, 2020](#); [Bernhardt et al., 2018](#)) particularly in societies where there exists substantial barriers to female mobility. Individuals may be privately supportive of FLFP; but underestimation of the support of one’s peer group towards women working outside may influence their actual outcomes in order to conform to social norms as it may be costly to make choices that are at odds with the majority views. In the context of India, [Field et al. \(2021\)](#) using vignette based survey responses found that in contrast to women, men overestimated the social sanctions associated with a woman working.

There is a small but growing body of literature that studies how land ownership is related with gender norms. Scholars have stated that land ownership has an adverse impact on gender norms and gender outcomes ([Bhalotra and Heady, 2003](#); [Schultz, 2006](#); [Bhalotra et al., 2019](#); [Lal, 2019](#); [Bhalotra et al., 2020](#)). Since land is an immovable asset and Indian marriages are characterised by patrilocality, land owning households are

expected to have stronger son preferences which might manifest itself more generally as a more conservative gender attitude.

In the context of this literature, we ask the following questions: to what extent are gender norms in general, and female work in particular, systematic to the institution of caste and the economic status of the households? Second, we check for the presence of pluralistic ignorance and how that is related to the institution of caste and economic status. Lastly, we also investigate whether land as an indicator of economic well being has a unique relationship with gender preferences and peer perceptions, distinct from other assets. We thus investigate the role of different indicators of economic well being: consumer assets and land, on individual attitudes and perception of peer attitudes.

### 3 Data and Empirical Strategy

#### 3.1 Data

The data used in this paper is based on a field survey conducted in two districts in North India: Pilibhit (Western Uttar Pradesh) and Jhajjar (Eastern Haryana). In India, there exists a clear north-south divide on the issue of gender equality and patriarchal norms (Dyson and Moore, 1983; Sen, 2003). According to the 68th round of the National Sample Survey (2011 – 12) data, Uttar Pradesh (14 percent) and Haryana (9 percent) ranks fifth and fourth respectively in terms of low rural FLFP. According to the Census of India 2011, the states of the Indo-Gangetic plains have the lowest sex ratio in the 0-6 years age group. This region is also characterised by lower female literacy and autonomy as compared to Southern India. Western Uttar Pradesh and Eastern Haryana together form a contiguous region with agro-climatic, cultural and economic similarity. The districts of Jhajjar and Pilibhit have rural FLFP rates of 7.68 percent and 4.19 percent respectively. Since the objective of this paper is to study the caste specific differences in terms of gender norms, the choice of this region seems to be appropriate.

The dataset consists of 960 households spread over 32 villages from these two districts. The econometric analysis is based on 841 observations, excluding non-hindu households and observations with missing information. In each of the two districts, two tehsils (sub-districts) were chosen at random. 8 villages were chosen at random from each of the selected tehsils from the sampling frame of 2011 Census villages.<sup>2</sup> 30 households are then chosen at random from each of the selected villages using the voters' list of the 2019 Parliamentary (*Lok-Sabha*) elections. Thus the total number of households selected in the sample is  $2 \times 2 \times 8 \times 30 = 960$ .

The survey administered three questionnaires to the households: the *household questionnaire* was administered to an adult household member and contained information on demographic details, asset ownership, labour participation, education levels etc., the *female questionnaire* was administered to an adult female member and contained questions regarding gender norms, aspirations, beliefs about social preferences, time-use etc, and the *male questionnaire* was administered to an adult male member and contained a subset of the questions asked in the female questionnaire. Both the male and the female questionnaire included questions in the form of vignettes and questions that were a part of the social experiment.

In order to understand how gender attitude might vary by socio-demographic characteristics like caste, class, gender we administer third party vignettes (Appendix B). Vignettes are brief descriptions of hypothetical situations about people's lives on a specific domain of interest. We administer 16 vignette based questions covering broad themes: gender roles, gendered division of labour, practices of *Sanskritisation*, women's work participation and gender discrimination. In the construction of the vignettes, we induce variations across class, caste, gender, education, type of work and work opportunity domains. While we elicit individual views on gendered attitude, the problem of social desirability bias is less of a concern in the case of vignettes-based modules as individuals express their views about third party scenarios. For example, the following is a sample vignettes-based question used in the survey:

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<sup>2</sup>Small villages, with less than 100 households, are excluded from the sampling frame.

*Shreya teaches in a community school in Delhi. Her husband asked her to quit her job when her husband got promoted and his salary was increased by 40%. On a scale of 1 (completely disagree) to 5 (completely agree) rate if you agree that her husband's decision is right.*

As a part of the social experiment to identify pluralistic ignorance, we collect information on one's own preferences, as well as beliefs about peer group's preferences. We ask each respondent to indicate how many out of 30 households from their village would allow women to work outside. We compare this estimate with the actual village level average (of individual responses) to construct the 'overestimation' indicator.

We collect information on a range of household characteristics and village level characteristics. We have detailed information on the demographic composition of household members (total number of children aged 0-5 years and 6-14 years old, education, age and demographic characteristics), household assets, land ownership and size of land holding, village infrastructure and labour market characteristics at the village level such as average daily wage rate for male and female casual agricultural labourers (in rupees), indicators for a shortage of labourers in the village for agricultural work and if people have left the village to find seasonal work during the last year.

## 3.2 Empirical Strategy

We are interested in understanding how caste membership interacts with socio-economic status (as measured by an asset index or landholding) to determine gender attitudes (as measured by Conservative Index<sup>3</sup>) and the presence of pluralistic ignorance. We estimate the following regression equation:

$$\begin{aligned}
 y_{ivd} = & \beta_0 + \sum_{j=2}^5 \alpha_j WQ_{(j)ivd} + \beta_1 SC_{ivd} + \sum_{j=2}^5 \gamma_{(j)} (SC_{ivd} \times WQ_{(j)ivd}) + \beta_2 OBC_{ivd} \\
 & + \sum_{j=2}^5 \theta_j (OBC_{ivd} \times WQ_{(j)ivd}) + \gamma X_{ivd} + \delta Z_{vd} + \phi_d + \varepsilon_{ivd}
 \end{aligned} \tag{3.1}$$

Here,  $y_{ivd}$  refers to the outcome variable of the individual  $i$  in village  $v$  of district  $d$ . In alternate specifications, our outcome variables measure conservative attitude (based on vignette responses) or a measure of 'pluralistic ignorance'.

In our regression equation 3.1,  $SC_{ivd}$  ( $OBC_{ivd}$ ) is a binary variable that assumes the value 1 if an individual belongs to the Scheduled Caste (SC) (Other Backward Classes (OBC)) group and is 0 otherwise. The omitted category therefore includes individuals who belong to general caste (upper caste) groups.  $WQ_{(j)ivd}$  takes the value 1 if the  $i^{\text{th}}$  individual belongs to the  $j^{\text{th}}$  quintile of asset (land) distribution.

We include a number of covariates in our analysis that attempt to control for household level differences among the individuals. In our regression equation above,  $X_{ivd}$  is a vector of controls specific to the household of individual  $i$  that includes household size, total number of children aged 0-5 years and 6-14 years old. We also include a number of village specific variables that attempt to control for the labour market conditions at the village level. Here,  $Z_{vd}$  indicate village specific controls such as average daily wage rate for male and female casual agricultural labourers (in rupees), variables measuring labour shortage and seasonal migration in the village.  $\phi_d$  denotes district fixed effects. Standard errors are clustered at the village level.

We construct a wealth index using principal component analysis on the indicator variables on a range of household assets and economic indicators: ownership of pucca house, mobile, motorcycle, bicycle, concrete roof; access to LPG connection and piped water, presence of indoor toilet, large land ownership (more than district mean). We create wealth quintile (WQ) using this index. Land quintile is created using the variable measuring the land owned in hectares by the family.

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<sup>3</sup>The index is created by applying the principal component analysis to the vignette responses.

Since the dependent variable represents a fixed level of conservative/liberal attitude as depicted in a certain third-party scenario, any variation in the rating of a vignette can be attributed causally to the socio-demographic characteristics of the individual, such as by caste, wealth quintiles and their interactions. <sup>4</sup>

## 4 Results

Table 1 describes the distribution of variables in the sample data. Since the conservative score constructed using the first component of a principal component analysis using centered data, the mean is zero by construction. However the dispersion around the mean is slightly higher for women compared to men. Similarly, the magnitude of overestimation of conservative attitudes among peers is higher for men as compared to women.

In all the tables with regression results, the regression model includes the indicator variables for wealth quintiles, Scheduled Castes (SC) and Other Backward Castes (OBC) and the interaction of asset/land quintiles with caste indicators. General category (GEN) households in the lowest quintile constitute the omitted category. In addition, in column (2) and (4) of every regression table, we control for a host of other variables mentioned in the descriptive statistics table. The first two columns of every table are for male responses and the last two columns are for female responses.

In Table 2, the dependent variables are the conservative indices based separately on the male and female responses to all the vignettes based questions. The first two columns report the coefficients based on male responses, with and without additional controls. While Table 2 provides the regression output, Table 3 helps us in understanding the wealth effects and caste effects as suggested by Table 2.

We find that within the poorest quintile households there exists no difference in the ‘conservative’ attitudes of male individuals between GEN, SC and OBC category. However in the poorest quintile, SC and OBC women are significantly more conservative than their GEN counterparts. *Ceteris paribus*, the conservative score of a SC woman is 0.998 points higher than the score of a GEN woman, in the poorest quintile. This is approximately 0.6 times the standard deviation of the conservative score distribution for female individuals. Within the richest quintile households, SC women are significantly less conservative (at 10% level of significance) than GEN women, but there exists no difference in the conservative attitudes of SC, OBC and GEN men. For men, it is never the case that ‘lower’ castes (SC and OBC) are less conservative than ‘upper’ castes (GEN). For women, some ‘lower’ castes (SC) are less conservative than ‘upper’ castes (GEN) at high levels of wealth ownership at a high 10% level of significance. This goes against the conventional belief that lower castes have more gender egalitarian preferences.

From Table 2 and Table 3, we can also check for the existence of wealth effects. Is it the case that within each caste and gender, increase in wealth ownership leads to reduced ‘conservative’ attitudes? Within men and women of the two lower caste groups, we do find evidence of such a wealth effect. For example from panel (a) of Table 3, we find that within the SC caste group, the conservative score of the fifth quintile women is 2.233 points (approximately 1.3 times the standard deviation) less than the conservative score of the first quintile women of the same caste group. In fact, the sharp negative wealth effect ensures that within the fifth quintile households, SC women are less conservative than GEN women. For the OBC caste group, the fifth quintile conservative score is 0.863 (0.50 times the standard deviation) less than the score of the first quintile conservative score. For SC men and OBC men, the wealth effect is qualitatively similar to the wealth effect for women of these groups. Within the GEN men and GEN women, we do not find wealth to have a significant impact on the conservative attitudes of men.

In Table 4 (and 2 of the online appendix), we measure the economic status of households using information

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<sup>4</sup>The vignette exercise requires two key assumptions (King et al., 2003), response consistency (individuals use the same response category for a third party as they do while evaluating themselves) and vignette equivalence (respondents understand the vignettes in the same way). Dasgupta (2018) argues for the use of vignettes in improving inter-personal comparison of subjective responses in the domain of health and well-being and validates the assumption of response consistency in a developing country setting like India.

on their land ownership. Every household is placed in one of the five land quintiles based on the size of land ownership of all households. We find that the effect of economic status on conservative attitudes to be very different compared to Table 2 and 3. Firstly, we find that within the poorest land quintile households there exists no difference in the ‘conservative’ attitudes of male (female) individuals between GEN, SC and OBC category (This is evident from column(1) and column(3) of panel (b) of Table 2 of the online appendix). Notably SC women of the richest land quintile are significantly more conservative than GEN women or OBC women of the same land quintile. Secondly, improvement in economic well being (measured using land quintiles) reduces conservative attitudes of GEN men and GEN women. The conservative score of GEN men(women) of fifth land quintile is less than the conservative score of GEN men(women) of first land quintile by 1.021 (0.930) points. Such effects were absent for GEN men and women when households were classified on the basis of assets rather than land ownership. However such within-caste land ownership effects at high levels of landownership are absent for SC women, SC men, OBC men and OBC women. For all these four groups, the second land quintile is less conservative than the first land quintile at 10% level of significance, but third, fourth and fifth quintiles are no different from first quintile. Thus in a way the land ownership effect for these groups depict an U shape.

Thus a comparison of the results in Table 2 and 4 reveal that the within-caste quintile effects or the within-quintile caste effects are sensitive to the indicator of economic well-being: land or assets. This seems to suggest a mismatch between the ranking of households on the basis of land ownership and a similar ranking on the basis of asset ownership. To explore this, we first estimate non-parametrically the relationship between the asset indicator and the land ownership variable for each of the three castes in Figure 1. While there exists a positive relationship between these two variables for OBCs and GENs, the relationship has an inverse U-shape for SCs. The correlation coefficient between these two variables is 0.28 and 0.31 (and significant at 1%) for OBC and GEN households respectively. The correlation coefficient is -0.07 but insignificant for SC households. In order to explore this further, we construct transition matrices where rows refer to asset quintiles and columns refer to land quintiles. If the ranking of the households on the basis of the two variables are similar, we should expect more households to lie in the diagonal cells. In panel (a) of Table 1 of the online appendix, we construct the matrix for all households. The cell in the  $i^{th}$  row and  $j^{th}$  column denotes the percentage of all households who belong to the  $i^{th}$  asset quintile and the  $j^{th}$  land quintile. We find that only 30 percent of households belong to the same land quintile and asset quintile. When SC, OBC and GEN households are considered separately, this proportion is 24 percent, 28 percent and 34 percent respectively. Strikingly for SCs, the households belonging to the highest asset quintile never belong to the two highest land quintiles. The Spearman’s rank correlation coefficient for SC, OBC and GEN households is 0.26, 0.32 and 0.49 respectively. Thus the correlation between land rank and asset rank of households is weak.

In the next set of tables, we summarize the results of the social experiment to document the presence of pluralistic ignorance. We study how the propensity to overestimate conservative attitudes amongst one’s peers is correlated to caste and economic status. From Table 1 we see that 55% of men and 46% of women overestimate conservative attitudes of their peers. Table 5 (and 3 in online appendix) explore the propensity to overestimate related to caste and asset ownership. Negative wealth effects exists for OBC men and women for higher asset groups. In other words, within OBC men and women, the propensity to overestimate is reduced as households become richer. While OBC men (women) from the poorest quintile have a similar (higher) propensity to overestimate than GEN men (women) of the poorest quintile, the negative wealth effect ensures that for the richest quintile the caste ordering changes. Within households from the lowest wealth quintile, SC men (women) are likely to overestimate conservative attitudes amongst peers more strongly than GEN men (women), however, such results are not seen for the richest wealth quintile.

Table 6 (and 4 in online appendix) report how overestimation scores are related to caste and economic well-being, when land ownership is used to measure economic well being. For the men (or women) from richest (or poorest) land quintiles, we do not find the existence of a caste effect. Within GEN women, SC Men and SC women, we find no effect on the probability of overestimation. For GEN men and OBC men, the highest quintile is least likely to overestimate conservative attitudes. Other than a few exceptions, it does not seem to be the case that land ownership affects the propensity to overestimate. Similarly, land ownership and gender being held fixed, caste does not seem related to the propensity to overestimate.

## 5 Discussion

In this paper, we characterise how preferences on gender attitudes and beliefs about the peer group vary across caste and class indicators. We use detailed data on gender attitudes, collected using a structured vignette questionnaire administered to rural households in two districts of North-Western India. We elicit individual subjective perceptions about gender norms through third party vignettes and examine how well aligned are individual perceptions about their peers' acceptability of female work. Further, using a social experiment, we test for the presence of pluralistic ignorance at the intersectionality of caste and class.

We do not find any evidence of the positive relationship between 'conservative' gender norms of a caste group and its position in caste hierarchy. On the contrary, for the poorest household (household in the first asset quintile), 'lower' caste women are significantly more conservative than 'upper' caste women. However, for scheduled caste women, there exists a negative wealth effect on their conservative attitudes.

In the social experiment, we find that within the lowest wealth quintile, SC men (OBC women) are likely to overestimate conservative attitudes amongst peers, as compared to the general category. Interestingly, wealth has heterogeneous effect on the likelihood of overestimation of conservative attitude of the peer group, that is systematic to caste categories.

Thus, we find that the relationship between conservative gender norms and caste, are in turn, influenced by the economic status of households, measured by land or asset ownership. SC women in highest land quintile show *higher* conservative attitude than SC women in lowest land quintile. Within general category men and women, land ownership is associated with a reduction in conservative attitude. The results on land ownership are somewhat similar in spirit to the *wealth paradox* phenomenon as found in [Bhalotra and Heady \(2003\)](#). They find that the children of land-rich households are *more* likely to work in rural Ghana and Pakistan and school attendance rates for girls is found to be *higher* for landless households in Pakistan <sup>5</sup>. In this paper we find that the wealth effect (measured using a composite asset index or land ownership) on conservative attitude is not qualitatively similar across caste groups, indicating a complex interplay of caste and class in determining conservative attitudes.

Further, in the presence of pluralistic ignorance, providing information can be a cost effective way of changing labour market behaviors. This is potentially a low hanging fruit in terms of policy action, where updating the second-order beliefs can speed up changes. This paper identifies class× caste sub-groups in which the problem of overestimation is more pronounced. This can help in efficiently targeting information campaigns. For OBC men and women, we do find a wealth effect which suggests that the problem of overestimation may disappear as this community experiences economic growth and prosperity.

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<sup>5</sup>Along the same line, [Schultz \(2006\)](#) also documents how the relationship between income and fertility can vary by the *source* of income. In the context of Kenya, while fertility is positively associated with increase in ownership of physical assets, viz. ownership of land, receipt of agricultural and non-agricultural rents, it is negatively associated with an increase in income from any other source.

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## A Tables and Figures

**Table 1:** Descriptive Statistics

	mean	sd	min	max
Conservative score (Males)	0.00	1.62	-2.93	3.03
Conservative score (Female)	0.00	1.70	-3.18	2.75
Overestimation score (Females)	0.46	0.50	0.00	1.00
Overestimation score (Males)	0.55	0.50	0.00	1.00
General Caste	0.45	0.50	0.00	1.00
SC	0.34	0.48	0.00	1.00
OBC	0.20	0.40	0.00	1.00
Primary	0.63	0.48	0.00	1.00
Children(0 to 5 years)	0.46	0.78	0.00	4.00
Children (6 to 14 years)	0.76	0.99	0.00	5.00
Household size	5.19	2.19	1.00	20.00
Agricultural Wage for Male	332.99	136.93	133.33	611.11
Agricultural Wage for Female	279.61	135.76	77.78	555.56
Outward Migration	0.71	0.45	0.00	1.00
Labour Shortage	0.66	0.47	0.00	1.00
Observations	944			

Note: ‘Conservative score’ is created by applying the principal component analysis to the eight gender vignette responses that measure outlook towards gender roles, social norms around women’s work participation, and attitude toward gender discrimination. ‘Underestimation score’ is created by averaging responses regarding perception about what percentage of 30 households surveyed think that women should be allowed to work outside. General Caste is a respondent belonging to General Caste category. SC is a respondent belonging to the Scheduled Caste category. OBC is a respondent belonging to the Other Backward Class category. Primary education is 1 if the head of the household is educated beyond primary education. Children (0 to 5 years) and (6 to 14 years) is the number of children aged between 0 to 5 years and 6 to 14 years in the family respectively. Household size is the number of members in the family. Average wage for males (females) is agricultural wage rate per day in Rupees for male (female). Labour shortage is seasonal labour shortage in the village. Migration outward is outward migration for seasonal work.

**Table 2:** Caste, Wealth Quintile and Conservative Scores for Gender Vignettes

	Male Responses		Female Responses	
	(1)	(2)	(3)	(4)
	Without Controls	With Controls	Without Controls	With Controls
2nd Wealth Quintile	-0.667** (0.322)	-0.685* (0.338)	-0.294 (0.259)	-0.280 (0.269)
3rd Wealth Quintile	-0.391 (0.342)	-0.421 (0.358)	0.0813 (0.326)	0.126 (0.327)
4th Wealth Quintile	-0.442 (0.300)	-0.488 (0.306)	-0.553 (0.359)	-0.469 (0.363)
5th Wealth Quintile	-0.430 (0.325)	-0.443 (0.341)	-0.502 (0.345)	-0.434 (0.350)
SC	0.00527 (0.282)	0.0290 (0.274)	0.934*** (0.293)	0.998*** (0.305)
2nd Wealth Quintile X SC	0.527 (0.361)	0.509 (0.347)	0.305 (0.330)	0.290 (0.332)
3rd Wealth Quintile X SC	0.174 (0.433)	0.249 (0.433)	-1.200*** (0.388)	-1.250*** (0.397)
4th Wealth Quintile X SC	0.205 (0.457)	0.242 (0.463)	-0.360 (0.490)	-0.437 (0.495)
5th Wealth Quintile X SC	-0.421 (0.482)	-0.461 (0.488)	-1.754*** (0.531)	-1.800*** (0.543)
OBC	0.334 (0.340)	0.241 (0.346)	0.462* (0.253)	0.423* (0.232)
2nd Wealth Quintile X OBC	0.408 (0.438)	0.454 (0.442)	0.456 (0.294)	0.455 (0.314)
3rd Wealth Quintile X OBC	0.316 (0.406)	0.339 (0.416)	-0.504 (0.369)	-0.515 (0.372)
4th Wealth Quintile X OBC	-0.131 (0.479)	-0.139 (0.454)	0.121 (0.441)	0.0156 (0.441)
5th Wealth Quintile X OBC	-0.640 (0.519)	-0.725 (0.489)	-0.280 (0.462)	-0.429 (0.440)
Observations	841	841	841	841
Mean of Dep. Variable	-0.027	-0.027	-0.001	-0.001
R-squared	0.062	0.095	0.062	0.078
F-statistic	9.194	12.627	8.245	8.056

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 3:** Wealth Effects and Caste Effects: Explanation of Table 2

	General		SC		OBC	
	Men	Women	Men	Women	Men	Women
2nd Quintile	-0.685*	-0.280	-0.176	0.010	-0.232	0.175
	(0.051)	(0.306)	(0.356)	(0.964)	(0.450)	(0.389)
3rd Quintile	-0.421	0.126	-0.172	-1.124***	-0.082	-0.389
	(0.249)	(0.702)	(0.502)	(0.001)	(0.721)	(0.188)
4th Quintile	-0.488	-0.469	-0.247	-0.906**	-0.628**	-0.453
	(0.121)	(0.206)	(0.549)	(0.029)	(0.026)	(0.212)
5th Quintile	-0.443	-0.434	-0.904**	-2.233***	-1.168***	-0.863**
	(0.203)	(0.225)	(0.021)	(0.000)	(0.002)	(0.031)

(a) Wealth effects in gender×caste sub-populations

	Men		Women	
	1st Quintile	5th Quintile	1st Quintile	5th Quintile
SC-GEN	0.029	-0.432	0.998***	-0.802*
	(0.916)	(0.199)	(0.003)	(0.092)
OBC-GEN	0.241	-0.484	0.423*	-0.006
	(0.492)	(0.146)	(0.078)	(0.987)
SC-OBC	-0.212	0.053	0.575*	-0.795
	(0.491)	(0.890)	(0.063)	(0.160)

(b) Caste Comparisons for gender × asset quintile sub-populations

P-values in parentheses.

In panel (a), every column refers to a sub-population defined by gender × caste. The  $j^{th}$  element of a column ( $j = 1, 2, 3, 4$ ) shows the amount by which the  $(j + 1)^{th}$  quintile of that sub-population is more conservative than the first quintile of the sub-population, ceteris paribus. The term in the parenthesis is the p-value of the two sided test where the null hypothesis is that ceteris paribus, the first and the  $(j + 1)^{th}$  quintile ( $j = 1, 2, 3, 4$ ) are equally conservative, against the alternative hypothesis that they are not.

In panel (b), every column refers to a sub-population defined by the column titles. The first row estimates the amount by which SCs are more conservative than GENs for each of these sub-populations. The second row estimates the amount by which OBCs are more conservative than GENs for each of these sub-populations. The third row estimates the amount by which SCs are more conservative than OBCs for each of these sub-populations. The term in the parenthesis is the p-value of the two sided test where the null hypothesis is that ceteris paribus, the first caste of the row title and the second caste of the row title are equally conservative, against the alternative hypothesis that they are not.

It should be noted that the asset quintiles are defined using the entire asset distribution. Asset quintiles are never defined for distributions in specific subgroups.

**Table 4:** Caste, Land Quintile and Conservative Scores for Gender Vignettes

	Male Responses		Female Responses	
	(1) Without Controls	(2) With Controls	(3) Without Controls	(4) With Controls
2nd Land Quintile	-0.788*	-0.648*	-0.184	-0.106
	(0.428)	(0.333)	(0.422)	(0.346)
3rd Land Quintile	-0.391	-0.394	-0.473	-0.440
	(0.251)	(0.256)	(0.360)	(0.358)
4th Land Quintile	-0.961***	-0.952***	-0.877***	-0.888***
	(0.330)	(0.307)	(0.307)	(0.296)
5th Land Quintile	-1.062***	-1.021***	-0.959***	-0.930***
	(0.336)	(0.324)	(0.276)	(0.269)
SC	-0.0939	0.0000669	0.272	0.299
	(0.350)	(0.325)	(0.301)	(0.309)
2nd Land Quintile X SC	0.0650	-0.0755	-0.811	-0.900*
	(0.545)	(0.503)	(0.510)	(0.472)
3rd Land Quintile X SC	0.312	0.166	0.981**	0.917*
	(0.447)	(0.436)	(0.451)	(0.475)
4th Land Quintile X SC	-0.101	-0.0985	1.405***	1.369**
	(0.578)	(0.560)	(0.503)	(0.514)
5th Land Quintile X SC	0.825*	0.771	1.362***	1.349***
	(0.483)	(0.483)	(0.398)	(0.390)
OBC	0.115	0.176	0.256	0.154
	(0.362)	(0.337)	(0.331)	(0.330)
2nd Land Quintile X OBC	-0.499	-0.739*	-0.792	-0.800
	(0.476)	(0.415)	(0.590)	(0.556)
3rd Land Quintile X OBC	-0.0375	-0.160	-0.0575	-0.0542
	(0.390)	(0.403)	(0.455)	(0.484)
4th Land Quintile X OBC	0.505	0.321	0.795*	0.842*
	(0.527)	(0.522)	(0.430)	(0.456)
5th Land Quintile X OBC	0.692	0.376	0.493	0.491
	(0.641)	(0.630)	(0.575)	(0.647)
Observations	842	842	842	842
Mean of Dep. Variable	-0.024	-0.024	-0.002	-0.002
R-squared	0.093	0.123	0.066	0.081
F-statistic	4.761	3.989	7.319	11.662

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 5:** Caste, Wealth Quintile and Estimation of Conservative Attitude of Peers

	Male Responses		Female Responses	
	Without Controls	With Controls	Without Controls	With Controls
2nd Wealth Quintile	0.158 (0.0993)	0.168 (0.103)	0.120 (0.0839)	0.110 (0.0863)
3rd Wealth Quintile	-0.0245 (0.0765)	-0.0149 (0.0798)	0.0448 (0.0771)	0.0470 (0.0715)
4th Wealth Quintile	-0.00840 (0.0804)	0.00170 (0.0921)	-0.0134 (0.0676)	-0.00790 (0.0661)
5th Wealth Quintile	0.0481 (0.0846)	0.0701 (0.0987)	-0.00857 (0.0797)	-0.00214 (0.0795)
SC	0.189* (0.0994)	0.186* (0.104)	0.161* (0.0867)	0.159* (0.0862)
2nd Wealth Quintile X SC	-0.176 (0.112)	-0.180 (0.118)	-0.211 (0.129)	-0.213 (0.133)
3rd Wealth Quintile X SC	-0.114 (0.136)	-0.105 (0.138)	-0.242* (0.131)	-0.241* (0.125)
4th Wealth Quintile X SC	-0.121 (0.144)	-0.108 (0.149)	-0.0111 (0.115)	-0.00742 (0.118)
5th Wealth Quintile X SC	-0.240 (0.147)	-0.255 (0.152)	-0.151 (0.151)	-0.160 (0.143)
OBC	0.0911 (0.123)	0.103 (0.123)	0.209** (0.0974)	0.183* (0.0955)
2nd Wealth Quintile X OBC	-0.205 (0.156)	-0.213 (0.160)	-0.251* (0.127)	-0.236* (0.128)
3rd Wealth Quintile X OBC	-0.0365 (0.148)	-0.0460 (0.146)	-0.233 (0.141)	-0.238* (0.136)
4th Wealth Quintile X OBC	-0.167 (0.165)	-0.168 (0.165)	-0.229* (0.122)	-0.245* (0.121)
5th Wealth Quintile X OBC	-0.276* (0.140)	-0.302** (0.140)	-0.333*** (0.114)	-0.343*** (0.111)
Observations	841	841	841	841
Mean of Dep. Variable	0.545	0.545	0.463	0.463
R-squared	0.028	0.034	0.021	0.035
F-statistic	3.628	4.647	3.922	9.672

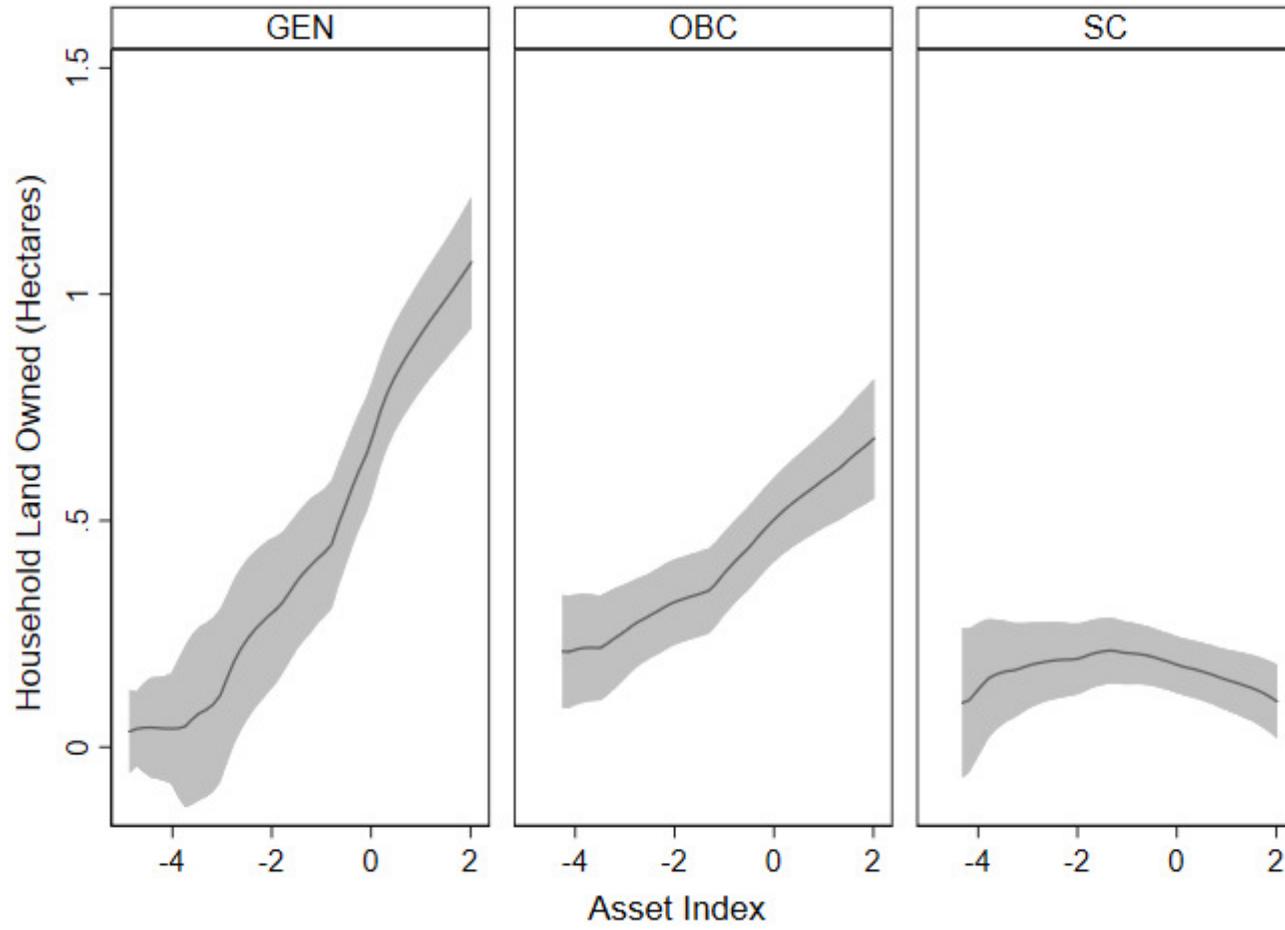
Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 6:** Caste, Land Holding Quintiles and Estimation of Conservative Attitude of Peers

	Male Responses		Female Responses	
	Without Controls	With Controls	Without Controls	With Controls
2nd Land Quintile	-0.0773 (0.102)	-0.0700 (0.0993)	0.0858 (0.116)	0.0965 (0.125)
3rd Land Quintile	-0.0819 (0.101)	-0.0832 (0.103)	0.0596 (0.0984)	0.0628 (0.0975)
4th Land Quintile	-0.0756 (0.0772)	-0.0724 (0.0799)	0.0156 (0.0801)	0.0106 (0.0849)
5th Land Quintile	-0.247*** (0.0769)	-0.242*** (0.0784)	-0.0823 (0.0796)	-0.0709 (0.0857)
SC	-0.0304 (0.0999)	-0.0256 (0.0952)	-0.0505 (0.106)	-0.0588 (0.103)
2nd Land Quintile X SC	0.0838 (0.155)	0.0698 (0.158)	0.0634 (0.155)	0.0645 (0.153)
3rd Land Quintile X SC	0.0405 (0.147)	0.0352 (0.143)	0.00130 (0.147)	-0.0309 (0.141)
4th Land Quintile X SC	-0.0921 (0.167)	-0.0900 (0.173)	-0.0352 (0.171)	-0.0154 (0.181)
5th Land Quintile X SC	0.271 (0.201)	0.271 (0.203)	0.0957 (0.205)	0.124 (0.197)
OBC	-0.0928 (0.0814)	-0.0755 (0.0836)	0.0433 (0.0717)	0.0350 (0.0737)
2nd Land Quintile X OBC	0.0303 (0.123)	0.00626 (0.119)	-0.108 (0.139)	-0.120 (0.150)
3rd Land Quintile X OBC	-0.0514 (0.154)	-0.0663 (0.151)	-0.200 (0.133)	-0.246* (0.126)
4th Land Quintile X OBC	0.0380 (0.0828)	0.0266 (0.0804)	-0.0760 (0.0922)	-0.107 (0.0931)
5th Land Quintile X OBC	0.0832 (0.126)	0.0515 (0.124)	0.00164 (0.103)	-0.0260 (0.111)
Observations	842	842	842	842
Mean of Dep. Variable	0.544	0.544	0.462	0.462
R-squared	0.034	0.040	0.014	0.030
F-statistic	3.613	7.199	2.392	5.333

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$  Standard errors are in parentheses



**Fig. 1:** Caste Specific Relationship between Land Ownership and Wealth Index

## B List of vignettes

- Rajesh takes care of his daughters at home and does all other household chores while his wife works as a teacher and earns for family. Rajesh's life choices are shameful.
- Rita lives in a small town in Haryana. She loves to play cricket after school. She is good at the sport. She hopes to become a professional cricketer. Her mother Asha is worried because She thinks sports is not an ideal career choice for a woman. Asha's concern regarding her daughter's ambitions is justified.
- Akash is 6 years old. He loves to play with dolls and kitchen sets. No one in his locality play with him. His father Raj has asked him to stop playing with dolls and play bat-ball with the locality kids. Do you agree with Raj advise?
- Riya works as a nurse in community hospital in Rajkot. She rejected a marriage proposal in a rich family because they did not allow her to work after marriage. Her family is disappointed with her because of her decision. Do you agree with Riya's decision?
- Shreya teaches in a community school in Delhi. Her husband asked her to leave her job when was promoted at a senior level in his company with a 40% hike in his salary. Do you agree with husband's decision?
- Smriti was severely scolded by her in laws when she forgot to take permission to meet her friend who lives nearby? Do you agree that their action is justified?
- Pooja lives with her husband and his family in Lakhimpur. She got a job offer of a teacher in a private school in Bareilly. Her in laws have prohibited her to migrate to a new city for a job. When she insisted, she was subject to physical abuse. Pooja's in laws actions are justified.
- Last year, Pradeep suffered a huge loss in business. Same year, his son got admission in a private engineering college. To pay for the college fees, he removed his daughter from her fashion designing course. Do you agree with her decision?