

Caste, Religion and Economic Participation of Women in India

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Abstract

This paper aims to study the evolution of labor force participation rate (LFPR) differences between women from the Hindu, Schedule Caste/Schedule Tribe (SC/ST) and Muslim communities in India. My data comes from seven rounds of the National Sample Survey covering the period from 1983/84 to 2011/12. I use methods proposed by DiNardo-Fortin-Lemieux and Oaxaca-Blinder to decompose the gaps in LFPR into a predicted and an unexplained part. I find that the Hindu-SC/ST gap has been steadily narrowing over time, while the Hindu-Muslim gap has remained high. I find that observables explain 46-57% of the Hindu-SC/ST gap, but only 5-22% of the Hindu-Muslim gap. In addition, I find that personal and household level variables have a negligible role in explaining the persistently low levels of Muslim female LFPR. Muslim women's concentration in areas of low economic activity seems to be the main driver of their low LFPR. I also test the role of culture in explaining inter-group gaps using the India Human Development Survey of 2011-12.

JEL Classification: J1, J8, O1

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1 Introduction

This paper aims to study gaps in labor force participation rates (LFPR) for women from the Hindu, Schedule Caste/Schedule Tribe (SC/ST) and Muslim communities in India. The motivation behind such a comparison is twofold: firstly, SC/ST and Muslims are the most deprived communities in India, and the status of women from these communities merits in-depth analysis. Secondly, summary statistics show that despite similarity on many indicators of economic development, the labor market participation behaviour of women from these communities is markedly different. My data spans over two decades (1983/84 to 2011/12), and covers a period of remarkable growth in the Indian economy, boosted by widespread economic reforms in the early 1990s. Have the benefits of this growth trickled down to these marginalized communities? How have women from these communities responded to this period of rapid growth¹? Is lack of education or poverty holding back women from these communities from fully participating in the economy? These are some of the questions this paper will attempt to answer.

Female labor force participation has received widespread attention in economic literature (Blau & Kahn, 2013). While some studies have looked at how changes in fertility affect the decision of women to enter or exit the labor force (Bloom et al. 2009; Hotz & Miller, 1988; Rosenzweig & Wolpin, 1980), others have studied the effect of female labor supply on children's cognitive development and health (Blau & Grossberg, 1992; Brooks-Gunn et al. 2002; Ruhm, 2004). Of particular interest to us is the growing literature that looks at the effect of culture on economic outcomes, particularly female labor supply (Antecol, 2003; Fernandez, 2007). This paper attempts to not only study religion and caste based gaps in female LFPR, but also examine how much of these gaps are attributable to differences in observable covariates such as education, and how much can be attributed to unobservable components such as culture and discrimination. I am also interested in knowing how this gap in female LFPR has evolved over time, particularly when the Indian economy has gone through rapid structures changes and there have been marked improvements in income levels and human capital development. This issue has come into renewed focus with recent data suggesting that female LFPR in India has been declining over the last decade. Klansen and Pieters (2015) study the phenomenon of stagnating female LFPR in urban India and conclude that this trend is being driven by rising income and education of men coupled with low growth in sectors that employ women².

¹ Munshi & Rosenzweig (2006) use survey data from Bombay spread over 20 years to show that lower caste girls are exploiting opportunities presented by the new economy to enroll in English schools as a means of upward mobility, in contrast to boys who are constrained by caste networks that restrict them to traditional occupation and local language schools.

² This finding is consistent with other cross-country studies that find economic growth and female LFPR follow a U-shape pattern, where initial economic growth is accompanied by declining female participation. However as incomes continue to grow, female LFPR also rises (see Mammen & Paxson, 2000)

I use data from seven rounds of the National Sample Survey (NSS) on Employment and Unemployment in India and find that there is considerable gap between the LFPR of Hindu women in comparison to SC/ST and Muslim women. Despite being similar on various indicators of development, SC/ST women have the highest LFPR and Muslim women have the lowest LFPR across all socio-religious categories in India. While the Hindu-SC/ST gap has been narrowing over time, the Hindu-Muslim gap remains high. Moreover, I find that observable characteristics such as education, poverty and household size explain a large part of the Hindu-SC/ST gap, whereas very little of the Hindu-Muslim gap is explained by these covariates. My findings are consistent with recent research on caste and religion based disparities in India. Hnatkowska et al (2012) find that between 1983/84 and 2004/05, there has been significant convergence in wages and consumption levels between SC/STs and non-SC/STs, and this is driven largely by convergence in levels of education. For both wage and consumption convergence they find that SC/STs in lower percentiles have benefited more compared to the relatively better off. Bhalotra et al (2010) study gaps in infant mortality rates between Hindus, Muslims and SC/STs and find that despite low indicators of socio-economic status, children born to Muslim mothers have, and continue to exhibit, higher survival rates. This paradoxical result is consistent with my finding that shows the inability of background characteristics in explaining outcomes for Muslim women. I find that Muslim women's absence from the laborforce is explained in large part due to their concentration in areas of low economic activity. I use the second wave of India Human Development Survey to test the role of culture and find that it plays only a small part in explaining Muslim women's low LFP.

The paper is divided in the following way: The second section provides a brief introduction to the caste system in India, section 3 reviews the literature on caste and religious inequality in India, and section 4 outlines the methodology while section 5 explains the data and summary statistics. Sections 6 and 7 explore the role of background characteristics in explaining the LFPR gaps, while section 8 provides avenues for future research and concludes.

2 System of Caste in India

India has been and continues to be deeply stratified on the basis of caste and religion. Even today, caste status plays an important role in determining opportunities and outcomes for the people of the country. While there are thousands of castes in India, they are divided between five main religions, namely, Hinduism, Islam, Christianity, Sikhism and Buddhism. Efforts to remove caste based inequality led some monarchs and British colonials to recognize most of the lower caste and religious populations as historically marginalized. Consequently, in independent India, the constitution went to great length in formulating

affirmative action for marginalized populations, namely, Dalits, Adivasis, and to a lesser extent Shudras, and Muslims. In official lexicon Dalits are identified as Scheduled Castes (SCs), Adivasis as Schedule Tribes (STs), Shudras as Other Backward Class (OBCs) and Muslims as Muslims. Together, these four groups are identified to be placed lower in the caste and religious hierarchy while the Hindu Upper Castes are understood to be placed higher.

The Hindu caste system can be divided into four hierarchical groups as follows: Brahmin (the priestly caste), Kshatriyas (the warrior caste), Vaishyas (the trading caste), Shudras (the service caste such as farmers, craftsmen and shepherds) and Ati-Shudras. The Ati-Shudras, now called Dalits, have been designated the work of menial labor including manual scavenging and were segregated from the village and main areas of the cities owing to their subordinate caste status (Omvedt, 2004; Thorat, 2002). While most of them are still Hindus many converted to other religions such as Buddhism, Christianity, Islam and Sikhism, to escape caste based oppression. According to the Indian constitution, Ati-Shudras who converted to Islam or Christianity are no longer recognized as SC for the purpose of affirmative action policies. According to the 2011 Census Ati-Shudras form 16.2% of the Indian population and in our analysis they are referred to as Schedule Caste.

The next group is Adivasi, which translates to original inhabitants. Over a period of time some Adivasis have been co-opted into the caste system alongside Dalits while others have continued to move further away from the fertile plains and into forests (Fü rer-Haimendorf, 1982). The social status of Adivasis is found to be similar to that of the Dalits. Apart from their own tribal religions, which are grouped under the larger category of Hinduism, they follow Christianity and to a much smaller extent, Islam. Their current population as per the 2011 Census is 8.2%, which makes them smallest of the population groups. In this paper they are referred to as Schedule Tribe.

Shudras or Other Backward Caste are the largest of the population group. Their main occupations were farming, rearing cattle and other forms of skilled labor (Ambedkar, 1970), that were counted as service to the castes above them in social hierarchy. Like Dalits, most of them are Hindu though many converted to other religions for a chance at upward mobility. The Indian census does not ask persons whether they identify as OBCs and there is significant heterogeneity across states in which caste is officially defined as

OBC. In fact, the National Sample Survey (NSS) did not include OBCs as a caste group till 1999-00, and for this purpose OBCs are included with 'Hindus' in our analysis³.

As indicated above, a large number of Muslims in modern India are former Shudras, Dalits and Adivasis who converted to Islam. Apart from the caste baggage that the community carried over after conversion, they face religion based marginalization. The dominant Hindu-nationalist rhetoric defines Islam and Christianity as foreign religions (Rauf, 2011) and this contributes to their persecution. Their right to freedom of religion is enshrined in the Indian constitution, which recognizes Muslims primarily as 'minorities'. In this paper they are referred to as Muslims.

3 Review of Existing Literature

3.1 Economic Exclusion and Caste in India

Much of the literature on economic discrimination in India has been centred on caste based discrimination. Indeed, Scheduled Caste and Scheduled Tribes continue to be one of the most deprived social groups in the country and still lag behind upper caste Hindus and other religions on indicators of social and economic development. The relative as well as absolute deprivation of SC/ST is widely documented (Hanna & Linden, 2012; Ito, 2009; Zacharias & Vakulabharanam, 2011). According to Planning Commission statistics for 2009-10, in urban areas, ST and SC have a poverty rate of 30.4% and 34.1% respectively compared to 12.4% for Hindus and 21% for India as a whole. Similarly in rural areas, compared to an overall poverty rate of 33.8%, ST and SC have a head count ratio (HCR) of 47.4% and 42.3% respectively (Government of India, 2012). Borooah (2005) decomposes the differences between Hindu and SC/ST households on income levels, incidence of poverty and levels of poverty into a residual effect which accounts for the difference between the 'income generating'⁴ profile of the SC/ST and Hindu households, and a discrimination effect. He finds that at the minimum, one-third of the difference in income across households is attributable to discrimination or 'unequal treatment' of the SC/ST households.

³ Along with a smaller central OBC list, each state is allowed discretion in whom to include or exclude from the state OBC list. For this reason, the definition of OBC varies from state to state, and it is not uncommon to find the same caste defined as OBC in one state and upper caste in a neighboring state. Because of the inconsistent definition of OBC across time and states, we decide to include OBCs under 'Hindu' category. Unlike SC/ST, OBC are eligible for affirmative action policies only if they meet certain income criterion.

⁴ Income generating profile refers to the household's ownership of land, regional location, non-land assets, number of adult workers and household head's education level

Discrimination and exclusion in the Indian context comes from a multitude of institutions which 'discriminate, isolate, shame, and deprive subordinate groups on the basis of identities like caste, religion and gender' (Thorat & Newman, 2010). Based on a field study which involved sending out three applications in an upper caste Hindu, Dalit and Muslim name for advertised private sector jobs, Thorat and Attwell (2007) find that Muslims elicited the least favourable response from potential employers, followed by Dalits. On the other hand, in a similar experiment Banerjee et al.(2009) find no conclusive evidence of caste or religion having an effect on the callback decision of software and call-center firms in and around New Delhi, India. Deshpande (2011), in perhaps one of the most comprehensive analyses of economic discrimination experienced by Dalits in recent times, shows that caste discrimination cuts across all levels of employment, right from the market for unskilled labor to the market for graduates from elite education institutions (ibid., p190). The book covers a gamut of issues from occupational distribution, wages, education, asset ownership and landholding, and develops a CDI (Caste Development Index) using various rounds of the National Family Health Survey, on the lines of the Human Development Index developed by the UNDP. The analysis shows that in almost all the states and across all three rounds of the NFHS, the CDI for SCs is consistently lower than that for non-SC/ST and the same is the case for STs, though they fare marginally better than SCs. She finds considerable variation across states both within and across rounds, and finds that the CDI for SCs is positively correlated with per capita real State Domestic Product (NSDP), indicating their better performance in economically better performing states. However, she finds that the level of inequality between groups is not correlated with state income. She also finds no clear relationship between SC-CDI disparity and real NSDP growth rate. In a very telling analysis of the relationship between caste and gender in labor markets, Deshpande (ibid.) finds that the GCDI (Gender Caste Development Index), follows a pattern similar to the CDI. However, it does not have any correlation with per capita real NSDP, indicating that the better economic performance of a state does not necessarily translate to increased well-being for Dalit women.

Wage disparity between different groups is perhaps one of the most widely used measures of economic discrimination. In India, the method of wage decomposition has been used to estimate the wage gap between various caste groups, and more recently, religions as well (Bhaumik & Chakrabarty, 2006). Banerjee and Knight (1985) find that the wage gap between SC and non-SC in their sample is almost 17%, and of this they estimate, more than half is on account of discrimination. A more recent study by Madheswaran and Attwell (2007), arrives at slightly different results. They estimate that a major part of the difference in wages between SC/ST and non-SC/ST is due to differences in endowments, while 15% is due to pure discrimination. They argue that the gap in wages is primarily due to differences in the kinds of occupations

that SC/ST and others hold, rather than pure wage discrimination. They however find that returns to education for SC/ST are considerably lower than for other groups and that wage discrimination exists in both public and private sector, and is much higher in the private sector.

3.2 Indian Muslims

The status of Indian Muslims has been a subject of historical (Hardy, 1972), sociological (Fazalbhoy, 1997; Robinson, 2004), political (Brass, 2005; Rauf, 2011) and economic (Khalidi, 2006) enquiry for many decades. Until very recently, the discussion on Indian Muslims revolved around issues of terrorism, communal violence and personal law, while the economic and social deprivation of the community was rarely discussed. The setting up of the Prime Minister's High Level Committee on Social, Economic and Educational Status of the Muslim Community of India (more commonly known as the Sachar Committee) in 2005, was perhaps the first official attempt at recognizing and studying the existence and extent of the backward status of the Muslim community in India. The committee submitted its report in November 2006 and became the reference for studying the various dimensions that define Muslim existence in modern India, from violence, exclusion and education to employment, health and poverty. In addition, recently released official poverty estimates of the Planning Commission indicate that Muslims are by far the most economically deprived religious community in India, across rural and urban areas. In rural Assam, West Bengal and Uttar Pradesh, the headcount ratio (HCR) for Muslims stands at 53.6 (39.9), 34.4 (28.8) and 44.4 (39.6)⁵. Similarly in urban areas, Muslims have a high HCR in states such as Gujarat- 42.4 (17.7), Bihar- 56.5 (39.4) and Uttar Pradesh- 49.5 (31.7) (Government of India, 2012). That these figures are high, even when using the controversially low poverty lines defined by the Planning Commission, highlights not only the relative, but also the absolute deprivation faced by Indian Muslims.

Bhaumik and Chakrabarty (2006) examine the difference in wages for Hindus and Muslims over the period between 1987 and 2005 using NSS data. Similar to studies on Dalits, they find that differences in education are the primary cause for differences in wages between the two groups. A large part of this is due to the difference in the proportion of wage earners in the two groups with tertiary education. It will be seen later in this research that this is not only due to the fact that a relatively lower proportion of Muslims have tertiary education, but also because only a small proportion of them are engaged in higher paying regular/salaried employment. This is corroborated in a study (Borooah et al. 2007) of the 55th round of NSS which finds that compared to upper caste Hindus, Muslim workers have a significantly lower probability of

⁵ Figures in parenthesis indicate overall state HCR

being in regular salaried employment. It will be shown in this paper that this is even more the case for Muslim women than for Muslim men.

Muslim women have largely been absent from realm of economic enquiry. Hasan and Menon (2005), best sum up the treatment of Muslim women in academic literature (p.3), *'the literature on Indian women in general is characterized by three broad tendencies: it ignores Muslim women, considers their status a product of personal laws, and assumes sameness in the status and forms of oppression, cross-community'*⁶. The assumption of sameness of women across groups, religions and communities, has received considerable attention in the works of the so-called 'feminist economists' who developed the Gender and Development (GAD) approach to development as a response to the WID (Women in Development) approach championed by Esther Boserup (1970). The GAD framework for the first time accepted the heterogeneity among women, and recognized that patriarchy operates both within and across class and other divisions to oppress women.

The assumption of homogeneity of Indian women and the over-emphasis on personal law and issues of religious identity in the context of Muslim women has meant that their socioeconomic, educational and political status remained understudied in India. A survey, called the Muslim Women Survey (MWS), by Hasan and Menon (2004), spread over 9541 households over 12 states was conducted to study the situation of Muslim women in India, covering a gamut of issues such as: education, work, socio-economic status, marriage, mobility, access to media, political participation, domestic violence and decision-making. The findings of the MWS are largely consistent with the trend observed at the national level in the NSS data, particularly in the area of education and employment. The study finds evidence of high drop-out rates and very low participation in higher education. Moreover, it shows that southern and western states perform better on indicators of education than northern and eastern states, and this is consistent with the findings of this research. The study finds very low levels of work participation and a concentration of women in self-employment and low-skill sectors. In an analysis of the 1993-94 round of the NSS, Bordia-Das (2005) corroborates the findings of the MWS, by concluding that the major reasons for low work participation of Muslim women is their limited engagement in agriculture in rural areas, and their 'exclusion from professional, technical and clerical jobs' in urban areas. The concentration of Muslims in certain sectors,

⁶ The Indian constitution allows religious minorities to follow their own religious laws concerning issues of marriage, divorce, division of property and succession. Indian Muslims come under a version of Sharia law that is governed by the All-India Muslim Personal Law board. While several successive governments have proposed the creation of a Uniform Civil Law Code, it remains a matter of considerable political contention.

areas, and kinds of work is corroborated in another recent study (Bordia Das, 2008) which found clear evidence of the presence of ethnic economic enclaves for Muslim men.

4 Methodology

My primary outcome of interest is the mean female labor force participation rate across the three caste-religion groups in India and its evolution over the last 25 years. The aim of this paper is to explore the contribution of observable background characteristics in explaining the LFPR gaps between the three groups. My methodology is twofold- I first examine the combined role of all covariates in explaining the LFPR gaps and this gives the total, predicted and unexplained gap. I then look at the role of individual characteristics in explaining the total and the predicted gap. I use two methods for the overall decomposition analysis- DFL method based on DiNardo, Fortin and Lemieux (1996) and the OB method based on Oaxaca (1973) and Blinder (1973). For assessing the role of individual characteristics I use an extension of the OB method. Observable covariates include age, marital status, level of education, rural residence indicator, number of children below the age of 5, household size, household head characteristics, and controls for local economic conditions. In addition, the model also includes a full set of controls for state of residence to capture regional variations in the economic participation of women.

4.1 DFL Method

Reweighting methods continue to be a popular tool in economics to study gender, ethnicity and race based gaps in various health and labor market outcomes⁷. The intuition behind reweighting is simple- if we want to study outcome differences between group L and M, we reweight group L so that its distribution of observables closely matches that of M, while retaining its own mapping from observables to outcome. Essentially, we give more weight to those Ls whose observables are similar to the Ms in our sample and progressively less weight to the Ls whose background characteristics are different from the Ms. In our sample, the L signifies Hindu women while M refers to SC/ST or Muslim women.

To begin, define the probability density for outcome y of caste/religion group c with background characteristics X as:

$$F(y|c) = \int_x F(y|c, X) dF(X|c) \quad (1)$$

From here it is easy to construct a valid counterfactual density of the following form:

$$F(y|c_{y|x} = L, c_x = M) = \int_x F(y|c = L, X) dF(X|c = M) \quad (2)$$

⁷ For a comprehensive review of decomposition methods in economics see Fortin et al (2010). For an application of DFL method to studying racial gaps in IMR see Elder et al. (2011)

This counterfactual density is valid only when the changing the marginal distribution function from $dF(X|c = L)$ to $dF(X|c = M)$ leaves the conditional distribution $F(y|c = L, X)$ unchanged. Using weights of the form $\varphi_{L \rightarrow M}(X)$ the counterfactual density in (2) can be written as

$$F(y|c_{y|X} = L, c_X = M) = \int_X F(y|c = L, X) \varphi_{L \rightarrow M}(X) dF(X|c = L) \quad (3)$$

Where using Bayes' rule, we can write $\varphi_{L \rightarrow M}(X)$ as

$$\frac{dF(X|c = M)}{dF(X|c = L)} \equiv \frac{\Pr(c=M|X)}{\Pr(c=L|X)} * \frac{\Pr(c=L)}{\Pr(c=M)} \quad (4)$$

I use logit (any binary model can be used) to calculate $\Pr(c = i | X)$, which is the probability of being from caste/religion group i as a function of background characteristics X . The second part, that is $\Pr(c = i)$, is simply the unconditional proportion of population in group i . In constructing the counterfactual weights, I use data for Hindu women pooled with the corresponding comparison group (SC/ST or Muslims), and then obtain three set of means: mean Hindu LFPR (H), mean SC/ST or Muslim LFPR (C) and mean counterfactual Hindu LFPR (H'). The gaps in labor force participation are calculated as follows: Total Gap (T) = H - C, Explained Gap (E) = H - H' and Unexplained Gap (U) = H' - C.

4.2 Oaxaca-Blinder Method

The Oaxaca-Blinder (OB) method for wage decomposition is the first and one of the most well-known decomposition techniques in economics. The original model used differences in means to break down male-female wage gaps into an explained component that can be attributed to differences in endowments such as education and experience and a residual component that is attributed to discrimination (and other unobservable characteristics).

In keeping with the notation developed in the previous section, let the groups be denoted by L and M. I am interested in knowing how much of the total gap T can be explained by the covariates X and how much remains unexplained.

$$T = E(y_L) - E(y_M)$$

Where $y_c = F(X'_c \beta_c)$ and F is a mapping of X to y. In our case, the mapping is linear, that is, $y_c = (X'_c \beta_c)$. According to the OB model, we can estimate T by using the sample differences in mean values of y_L and y_M . More formally

$$T = \overline{y_L} - \overline{y_M} = \left[\overline{(X'_L \beta_L)} - \overline{(X'_M \beta_L)} \right] + \left[\overline{(X'_M \beta_L)} - \overline{(X'_M \beta_M)} \right] = E + U \quad (5)$$

Here the first part is explained due to differences in characteristics, whereas the second part is unexplained or due to differences in coefficients or returns to characteristics. An extension of the OB also allows us to calculate the role of individual covariates (or group of covariates) in predicting the explained gap. These estimates are calculated as $\left[\overline{(Z'_L \beta_L^Z)} - \overline{(Z'_M \beta_M^Z)} \right]$ where Z_i is a subset of the variables from X and β_L^Z is the corresponding coefficient from regressing y on X for group L .

5 Data and Summary Statistics

I use data from the 38th (1983-84), 43rd (1988), 50th (1993-94), 55th (1999-00), 61st (2004-05), 66th (2009-10)⁸ and 68th (2011-12) rounds of the National Sample Survey on Employment and Unemployment in India. These nationally representative surveys are usually conducted every five years to provide a comprehensive assessment of the labor market situation in the country. Each round covers between 100,000-120,000 households and 450,000-600,000 individuals.

My working sample is comprised of women between the ages of 15-59 belonging to 3 mutually exclusive categories- Hindu, Schedule Caste/Schedule Tribe and Muslim. The Hindu category consists of all those who report being Hindu but not SC/ST. The Muslim category contains all Muslims regardless of caste. And finally, SC/ST includes all non-Muslim SC/ST persons. I drop all observations who are non-SC/ST or non-Hindu/Muslim⁹. My measure of labor force participation rate is based on a one-year reference period and includes work in a subsidiary status¹⁰. I drop observations for which information on caste or religion is missing¹¹.

To account for regional variation I include a full set of state dummies. I restrict the sample to 15 major states of India that cover roughly 92-95% of India's population. Three new states of Jharkhand, Uttaranchal and Chhattisgarh were carved out of the states of Bihar, Uttar Pradesh and Madhya Pradesh respectively,

⁸ Significant changes have been undertaken in designing the surveys beginning with the 66th round (2009-10). One of the most important changes was a marked reduction in the sample size as well as reclassification of rural and urban areas. Moreover, 66th round was conducted in a year when many areas of the country experienced acute drought, which may affect labor market outcomes. We thus need to proceed with caution when comparing results of the 66th round with previous rounds.

⁹ This group includes non-SC/ST members of religious minorities such as Sikhs, Christians, Jains, Buddhists and Others. They represent roughly 4.9 percent of our sample.

¹⁰ The NSS defines this as usual status. This includes the work done as primary status in the last 365 days as well as work done in a subsidiary status for at least 30 days in the last year. Women who reported the following activities were counted as being in the labor force: worked in HH enterprise (self-employed) as own account worker or employer, worked as helper in HH enterprise (unpaid family worker), worked as regular salaried/ wage employee, worked as casual wage labor in public works or in other types of work, sought work, did not seek but was available for work

¹¹ We drop 21/120909 households in 38th round, none in 50th and 55th round (115409 and 120386 households respectively), 96/124680 households in 61st Round and 87/100957 households in 66th round for missing data on caste and/or religion.

in 2000. To ensure comparability across rounds, I treat the new states as a part of their old state and this leaves 15 states in total¹². I also include controls for local economic conditions by controlling for adult male unemployment rate and the proportion of men with a secondary school education or higher in the respondent's region. I also drop all observations that are missing information on any of the covariates such as monthly per capita income, age, years of education, household size¹³. The final sample consists of 140,000 to 180,000 women per round.

I control for level of education by dividing it into five mutually exclusive categories based on highest level of completed schooling-no education, incomplete primary school, complete primary school, middle school and secondary and higher¹⁴. Controls for household head's education are similarly constructed. Controls for age of respondent and age of head are also added.

Concurrent with recent literature, household income and wealth is believed to be an important component driving the decision of women to participate in the laborforce. The NSS does not report measures of income but does provide monthly household per capita consumption expenditure. However, controlling for consumption directly would create endogeneity. I work around this problem using two solutions. I first control for characteristics of the household head and male household members that I believe proxy for some measure of permanent household income. In the second specification I also add predicted consumption expenditure rather than actual expenditure to more directly control for measures of income.

A caveat of the NSS data is that each of the respondent is asked her/his relationship to the household head only, hence, unless the adult female in the house is the head or spouse of the household head it is impossible to determine exactly how many children in the household are her own. This is particularly problematic in the case of joint families which are very prevalent in India, where children live in the same household with the mother, grandmother and aunts. One solution to that would have been to include only those women who report themselves to be heads or spouses of the head. They represent between 60-61% of our working sample. However, this would have led to excluding a vast number of women who live in joint families and whose labor market behaviour may be quite different from women living in nuclear families.

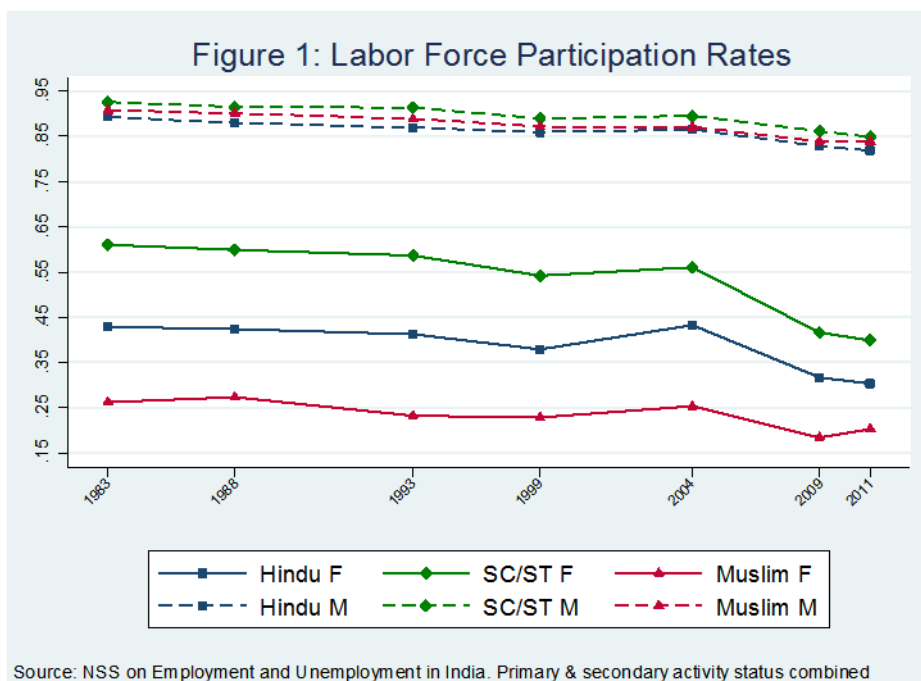
¹² The states included in our analysis are Uttar Pradesh, Bihar, Maharashtra, Madhya Pradesh, West Bengal, Andhra Pradesh, Tamil Nadu, Karnataka, Gujarat, Rajasthan, Orissa, Kerala, Assam, Punjab and Jammu & Kashmir.

¹³ Less than 1 percent of our sample is dropped by excluding observations with missing data on any of our covariates.

¹⁴ This method does not account for technical education because technical education is reported by a very small proportion of the population. Moreover, the technical education question has changed over the rounds making it inconsistent across all our sample years. We do however try an alternative specification that converts level of education (general and technical) into years of education and it only reinforces our main finding that covariates explain a sizeable portion of the Hindu-SC/ST gap, but very little of the Hindu-Muslim Gap. Results not reported.

To control for the effect of fertility decisions on labor market behaviour, I include as a covariate, the total number of children below 5 in the household. This is reasonable since child rearing responsibilities in India are often shared among all women of the household when living in joint families.

The premise of the paper is that there are substantial differences in the LFPR of women from different communities, and this is very evident from Figure 1. While on the one hand, SC/ST women have the lowest indicators of human capital, they have the highest LFPR. On the other hand, Muslim women, who fare similarly on indicators of education and income, have the lowest LFPR. As Figure 1 shows, this disparity between groups is particular to women, since men have similar levels of LFPR across all the three groups. Until the 61st round, the LFPR of women was steadily increasing, however it has gone down substantially in the last two rounds. Some of this has been attributed to the fact that younger women are staying in school/college longer, which does seem to be true. However, there has also been a disproportionate increase in the number of women who are withdrawing from the labor force in favour of domestic work, and this is a secular trend across all groups.



Historically Muslims have been involved in crafts and artisanal trade and this is mirrored in the fact that a majority of working Muslim women are 'self-employed', most of them in home based micro-manufacturing units. On the other hand, SC/ST women are disproportionately represented in casual labor, most of which is in the rural agriculture sector. These clear trends in occupational distribution are reflective of the fact that landholding in India has been concentrated in the hands of the upper caste, which in the

absence of substantive land reforms, has led to persistent ethnic employment enclaves. While Muslim women have lowest LFPR, they also have the highest rate of unemployment, which incidentally is the highest across all groups and genders. In our sample Hindu and SC/ST women had an unemployment rate of 4% in 2009-10, whereas the same for Muslim women was 7%.

The persistently low levels of education of women in India has been a major concern for policymakers. However, our data shows that there is considerable heterogeneity across the three groups of women as well. Descriptive statistics in Table A1-A3 show that Hindu women continue to have the highest levels of education. On the other hand, while SC/ST women have made remarkable improvements over the years, they still have the lowest levels of education and high rates on illiteracy. Finally, Muslim women who were previously performing significantly better than SC/ST women are now placed only marginally better on indicators of education. According to the 66th Round, Hindu women had an average of 5.85 years, Muslim women had 4 years and SC/ST women had 3.5 years of education.

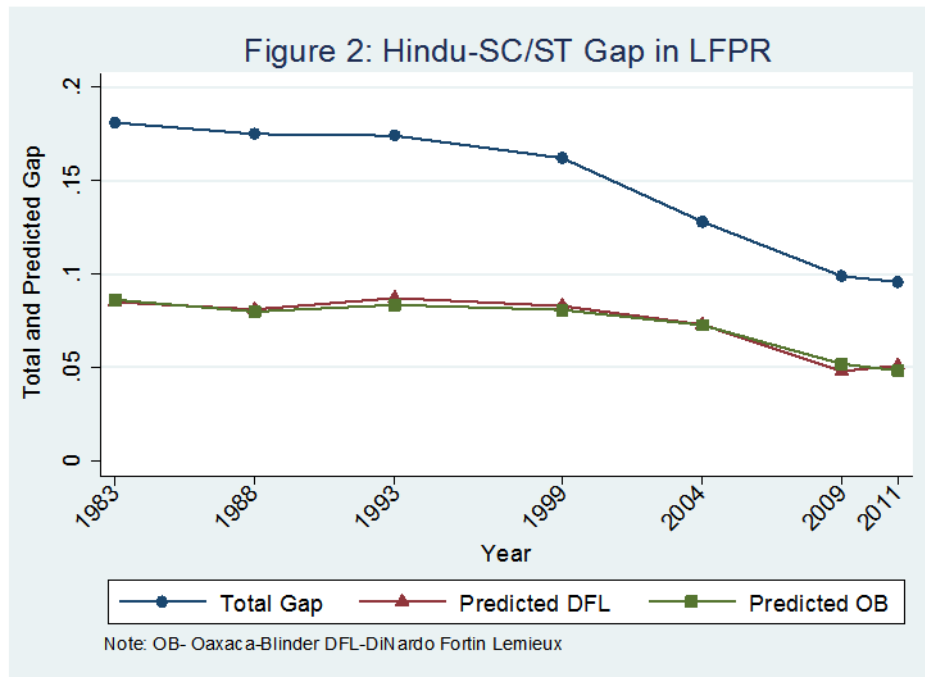
Household level statistics also show considerable heterogeneity across groups. Between 83-86 percent of SC/ST households live in rural areas, whereas Muslims are the most urbanized community. Muslim households have the most members and have the highest number of children under 5, which is indicative of the community's higher fertility rate and lower child and infant mortality (Bhalotra, 2009). Muslim tend to live in areas where male unemployment rate is higher, and more than 80% Muslim and SC/ST women live in households with no adult male engaged in regular salaried employment.

6 Role of All Covariates

For analysis based on the DFL method, I construct a counterfactual Hindu distribution that has the characteristics of SC/ST and Muslims respectively, but retains its own mapping from background characteristics to labor force participation behaviour. Figures A1-A4 show that the reweighted Hindu population looks quite similar to its corresponding reference group in terms of the distribution of covariates. The counterfactual (CF) Hindu distribution is marginally younger than the SC/ST sample. In both cases the CF population has slightly higher years of education, and smaller HH size compared to the reference group. On all other indicators, our CF, on average, looks almost identical to the corresponding comparison group. The gap between actual Hindus and the counterfactual Hindus is what I call predicted or explained gap, whereas the gap between counterfactual Hindus and the comparison group is called the unexplained gap. Point estimates based on DFL method are shown in Tables 1 and 2, and point estimates based on OB

method are shown in Tables 3 and 4. As is evident, both the DFL and OB method give similar results for both groups. I report OB results with an alternative specification that includes predicted income along with other proxy controls for household wealth. The results of this alternative specification are in Tables 5 and 6. The alternative specification gives us results that are qualitatively similar to the main specification.

Gap by Caste: Between 46-57 % percent of the gap in LFPR between SC/ST and Hindu women can be explained by differences in covariates. What this means is that if Hindu women had the same distribution of characteristics as SC/ST women, their LFPR would be between 5 to 8.7 percentage points higher than it is. As an example, column 1 of Table 1 shows that the Hindu counterfactual LFPR is 51.5 percent, which is the Hindu LFPR if they had the SC/ST characteristics on average. Compared to this, the actual Hindu LFPR is 42.9%. This means that the gap in Hindu-SC/ST LFPR which can be predicted by differences in observables is 8.6% compared to the overall gap of 18.1%. Table 2 shows that the results using the OB method are also quite similar. Roughly 8.5% of the total gap between Hindu and SC/ST in 1983-84 is explained by differences in observables.



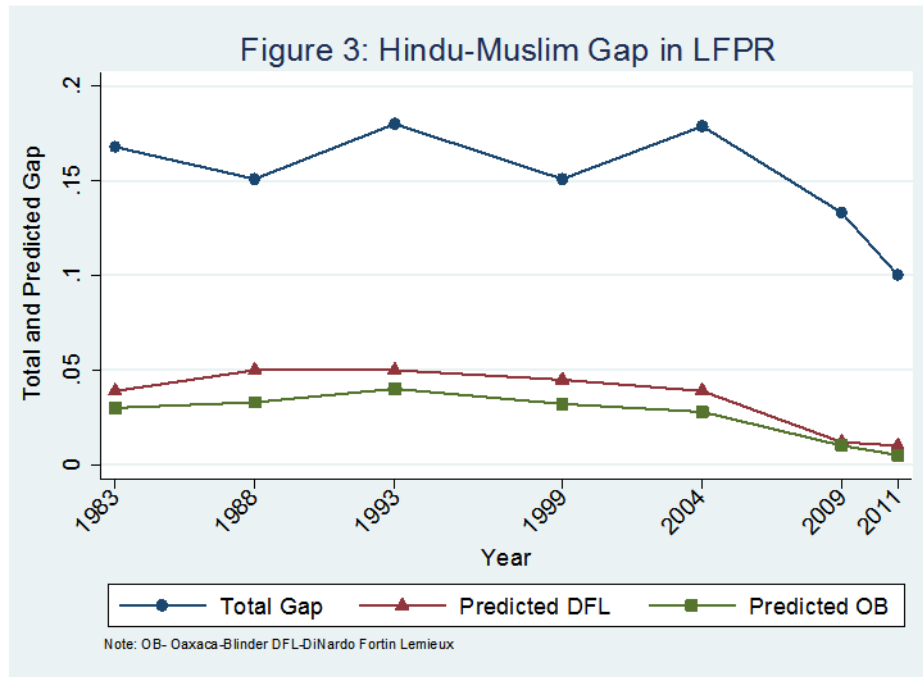
Lower caste women are overwhelmingly concentrated in rural areas, where opportunities to be employed as unskilled marginal and casual labor are abundant. This is the sector that employs the highest proportion of SC/ST women, and if they are increasingly getting pushed into low paying casual labor, then the higher labor force participation of lower caste women could be a sign of economic distress rather than economic empowerment. As Figure 2 shows, relative to total gap, the explained component of the SC/ST gap has

also been steadily, albeit slowly, increasing over the years, and this underscores the importance of social and human capital indicators in determining economic outcomes for lower caste women.

The absolute gap in LFP between Hindu and SC/ST women has also been declining quite significantly over the years. In 1983 the LFPR of SC/ST women was 18% higher than Hindu women, however by 2009-10 this had dropped to only 10%. When I include measures for predicted consumption expenditure, the explained portion of the Hindu-SC/ST gap rises to almost 85% in 1999-00. Household income seems to be an important determinant of female labor force participation for SC/ST women, an argument I will revisit in the next section.

Gaps by Religion: Muslims fare similarly to SC/ST on indicators of human development and poverty, however the labor market response of Muslim women to these indicators is markedly different. If Muslim women's labor market behaviour was similar to SC/ST women, we would expect Muslim LFPR to be higher than Hindu LFPR, however the gap between Hindu and Muslim women is large and positive, the opposite of what was seen between Hindu and SC/ST women. Also in contrast to lower caste women, observables explain a very small part of the LFPR gap between Muslim and Hindu women, and this explained component has been declining over the years from 18% in 1983 to 8% in 2009. Again, using 1983-84 as an example, column 1 of Table 2 shows that the Hindu counterfactual LFPR is 39.1% compared to the actual Hindu LFPR of 42.9%. This implies that of the total gap of 16.8%, only 3.9% is explained by differences in observables between Hindu and Muslim women. Table 4 reports the results using the OB method and gives similar results, 3% of the Hindu-Muslim gap is explained.

The absolute gap between Hindu-Muslim LFPR has fluctuated significantly over the years, rising to its highest level of 18 percentage points in 2004-05. If Hindus in our sample had the Muslim distribution of characteristics, their LFPR would have been 0.5 to 4 percentage points lower than it is. As we will see in the next section, almost the entire explained portion of the Hindu-Muslim gap can be attributed to regional concentration of Muslims in low female LFPR states.



If low human capital indicators and economic deprivation push SC/ST women into the labor force, why do these same characteristics have little to no effect for Muslim women? One reason for this paradox could perhaps be explained by the presence of ethnic economic enclaves. A majority of Muslims, particularly in rural areas, are involved in craft and artisanal trade and traditionally, the ‘skill’ of the craft is passed on to sons and other male family members rather than to daughters. Low levels of education, combined with little to no specific ‘skills’, severely restrict the employment options available to Muslim women. Moreover, there is some evidence to suggest that women working in home based enterprises systematically under report their economic activity because they themselves don’t place economic value on their work. Women working as a part of their husband’s or father’s small business may consider such work to be part of their domestic duties, particularly because home based work does not involve a fixed wage or salary. Finally, religious traditions and customs could also explain Muslim women’s absence from the labor force. I explore each of these hypotheses in the next section.

7 Role of Individual Covariates

The results from the previous section show that despite similar levels of economic and human capital development, Muslim and SC/ST women exhibit vastly different labor market behaviour. Given these paradoxical results that emerge when looking at the role of all covariates combined, it becomes important

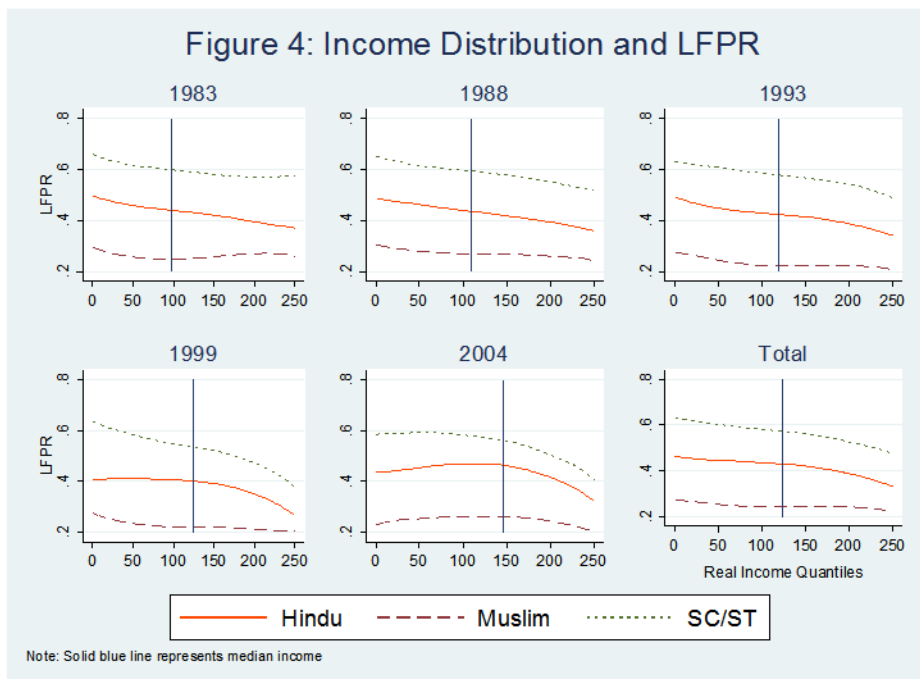
to see what contribution individual covariates have in explaining LFPR gaps between the different groups. I use an extension of the Oaxaca-Blinder method to examine the role of individual covariates. For an easier and more intuitive interpretation of results, I group the covariates into 3 categories: personal, household and regional characteristics. The personal category includes age, years of education, and marital status, household category includes household size, indicator for HH male characteristics and household head's characteristics and the regional category includes rural residence indicator, regional adult male outcomes as well as state fixed effects.

Gaps by Caste. Together personal and household characteristics account for 80-90% of the explained gap for Hindus and SC/ST, whereas regional variables play a smaller role. As an example, if Hindu women had the personal characteristics of SC/ST women in 2004-05, their LFPR would have been higher by 3.2 percentage points. Overall personal and household characteristics, respectively, explained 48% of the total gap in 2004-05, whereas this was 38% in 1983-94. This shows that personal and household characteristics are increasingly playing a larger role in explaining the labor market behaviour of SC/ST women. This could be, at least in part, due to the rapid convergence in levels of education between SC/STs and Hindus. While SC/ST levels of education are still the lowest among all groups, they have been the fastest to increase over the period under study. This convergence has been aided by affirmative action policies that guarantee 22.5% seats in higher education and public employment for SC/STs at the state and federal level.

On the other hand, given that a vast majority of SC/ST women continued to be employed in the agriculture sector, it become imperative to examine whether female LFPR among SC/ST and Hindus is being driven by economic opportunities or economic distress. To this effect I examine how female LFPR for the three groups responds to changes income. If the decision to enter the labor force is indeed driven by economic need, then we would expect LFPR to fall as incomes increase. Moreover, the decline will be sharper for those groups for which the relationship is stronger. To test this, I divide real income¹⁵ into 250 quantiles and aggregate female LFPR for the three groups within each quantile. Figure 4 shows that both SC/ST and Hindu women's LFPR responds strongly to increases in income whereas for Muslim women the relationship is relatively flat. The relationship has become more pronounced in over the years. Descriptive statistics showed that female LFPR in India has been declining in recent years. The graph suggests two

¹⁵ We use household monthly per capita expenditure as a proxy for household income. Nominal values are converted to real values using publically available poverty lines. We use 1983 rural Maharashtra as the base. The method of calculating these poverty lines changed significantly in 2009-10, hence we restrict our analysis from the 38th to the 61st round to maintain consistency.

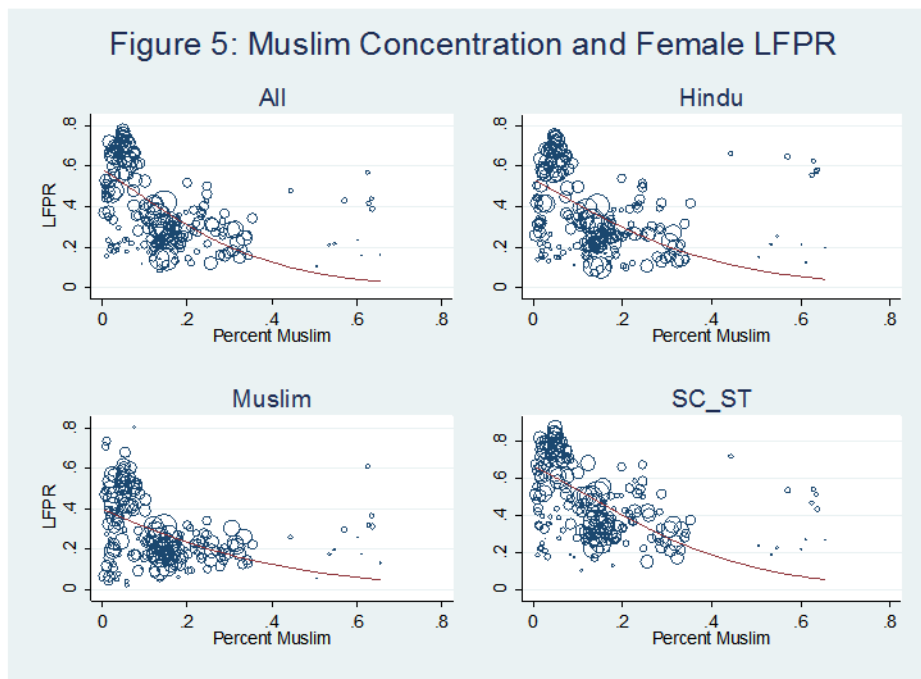
reasons why that may be happening- female LFPR is becoming more responsive to increases in income, and real incomes themselves are rising- both of which contribute to lower rate of female employment.



Gaps by Religion: In contrast to SC/ST, the role of personal and household characteristics is almost negligible in explaining the Hindu-Muslim gap in LFPR. Regional characteristics more than account for the entire explained gap between the two groups. On closer examination of the sample, the reason for this becomes clearer. More than half of the Muslim women in the sample come from the states of Bihar, Uttar Pradesh and West Bengal, whereas only 30% of Hindu women live in these states. However, it is in these three states that Hindu women have the lowest LFPR, hence when I give more weight to the Hindu women from these states, I close some of the gap between Hindus and Muslims. Figure 5 offers suggestive evidence for this hypothesis. I plot female LFPR for the two groups as a function of the proportion of Muslims in the region¹⁶. If female LFPR is depressed in areas where concentration of Muslims is high, we would expect LFPR to decline with increase in proportion of Muslims. Figure 5 confirms that areas with higher concentration of Muslims exhibit lower levels of female participation for all groups, not just Muslims. Descriptive statistics show that along with exhibiting higher rates of unemployment, Muslim women are also more likely to live in areas with higher male unemployment rate compared to the other two groups. This implied that Muslim women are more likely to live in areas where opportunities for employment are low for both women and men. According to the Indian census, a majority of women in India move within

¹⁶ Each circle represents a sector-state-year combination and the size of each circle is proportional to the corresponding population weights. There are 2 sectors- rural and urban, 15 states and 7 years of data available.

the same district or state at the time of marriage. Such localized marriage markets imply that Muslim women remain trapped in enclaves of low economic activity.



Without this regional heterogeneity, the gap between these two groups would have remained the same and would even have widened in some cases. For example, according to the 38th Round, if Hindus had the personal characteristics of Muslims, their LFPR would have been 1.2 percentage points higher than it was. This is similar to the result I saw in the Hindu-SC/ST comparison, where less educated and poorer Hindu and SC/ST women are more likely to participate in the laborforce. Thus covariates, excluding spatial distribution, explain little to none of the reason behind the significantly lower LFPR of Muslim women in India.

Finally, I examine the role of culture in explaining the persistence or absence of Muslim women from the laborforce. Das (2005) presents some anecdotal evidence from the Muslim Women’s Survey that points to the practice of *purdah* or veiling among Muslim women as a factor in restricting their mobility for purpose of employment. She does however conclude that there is considerable heterogeneity across class divisions in the practice of *purdah*, and that lack of jobs (particularly agriculture based) outside the house contribute to Muslim women’s concentration in home-based work. While most of the evidence on the role of culture remains anecdotal and descriptive, I try to offer some empirical evidence on this issue. The NSS does not offer any information on intra-household decision making, mobility or violence, so for this section I use data from the India Human Development Survey. The IHDS is a two panel nationally representative survey and

I use the second wave (2011-12) of the survey. I am able to construct almost all the controls used in the main analysis, along with some controls for “culture”. An advantage of this dataset is that it asks for measures of more permanent household wealth (such as ownership of durables and assets), along with flow variables such as income and consumption. I use a composite “asset” measure to control for HH wealth. This variable takes values from 0 to 33 and is a simple sum of assets owned by the household. I construct various measures for the culture variable using the “gender relations” part of the women’s questionnaire. I divide gender relations this into 3 parts- mobility (0-4), attitude towards violence (0-6) and decision making (0-6). Each of these is constructed using answers to questions about these variables (higher is better)¹⁷. I also control for whether the woman observes covering of head/face and also whether the woman says work decision is made by self or husband/someone else. In total I have 5 controls for culture. Decomposition results from Table 7 show that while culture does play a small role in explaining the LFPR gap between Hindus and Muslims, the role of culture is not large enough to explain the persistently low LFPR for Muslim women. For example, column 2 of table 7 shows that of the total Hindu-Muslim gap of 15.5 percentage points, culture explains only 1.8 percentage points. A majority of the Hindu-Muslim gap is explained by regional variables, as was seen in the main analysis using NSS data. For Muslim women, culture explains 28% of the explained and 11% of the overall Hindu-Muslim gap in female laborforce participation.

8 Discussion and Conclusion

I use data from 7 rounds of the NSS survey on employment in India to estimate the gaps in labor force participation rates between women from 3 different caste/religion groups, namely Hindus, Schedule Caste/Schedule Tribe and Muslims. I use two different decomposition methods to decompose the gap into a part explainable by differences in background characteristics and an unexplained component. Additionally, I also examined the role of individual covariates in explaining the predicted gap.

Several findings emerge from these results that can serve as input into formulating better targeted redistribution policies, as well as input into future research on the economics of inequality in the Indian context. My analysis showed that the gap in LFPR between Hindu and SC/ST women has been steadily narrowing over the years, however the gap between Hindu and Muslim women has remained consistently high. Moreover, while background characteristics explain over half of the Hindi-SC/ST gap, they explain

¹⁷ As an example, the question on mobility asks- Can you go to health clinic by your self- YES (1) or NO (0). There are 4 such questions. If a woman answers YES for all 4 she gets a mobility score of 4, if she answers YES for two NO for two her mobility score is 2.

very little of the Hindu-Muslim gap. My results show that the higher LFPR of SC/ST and Hindu women seems to be driven in large part due to poverty and economic distress and this is especially true for SC/ST women. It is hence not surprising that rising incomes have led to withdrawal of women from the labor force in recent years across all groups.

Recognizing the need for looking at the role of culture and religion in explaining economic outcomes for women, particularly from multi-ethnic and diverse countries such as India, I examine the role of culture in explaining the persistently low LFPR of Muslim women. I find that culture plays a small but significant role. It is important to recognize that while culture may operate in conjunction with background characteristics to reinforce conventional economic relationships, it could also represent behaviours and unobservables that lead to outcomes that are contrary to what economic models predict.

Based on personal and household characteristics we would expect Muslims to exhibit significantly higher LFPR compared to their own current levels and compared to Hindus. However, I find that Muslim women's absence from the labor force cannot be explained by their low levels of education and income. Moreover, contrary to popular rhetoric, culture does not seem to be an important predictor of the low Muslim female LFPR either. Overall my results show that while personal and household characteristics, such as low levels of education and income, play a critical role in explaining the high SC/ST female LFPR, they provide little to no insight into the persistently low rates of labor force participation of Muslim women. Finally, I find that geographic location plays an important role in explaining economic outcomes for women. I find that Muslim women's low LFPR is being driven largely by their concentration in areas of low economic activity which is also reflected in their high rates of unemployment. If avenues for mobility outside such areas are restricted by both lack of economic opportunities and cultural restrictions, then women can become trapped in a cycle of deprivation. These findings highlight not only the markedly different experiences of deprivation faced by women from minority communities in India, but also their widely varying response to this deprivation, thus underscoring the need for specifically targeted policies and intervention that address these needs.

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Tables and Figures

Table 1: Decomposition of Hindu-SC/ST LFPR Gap (DFL Method)

		38 th	43 rd	50 th	55 th	61 st	66 th	68 th
		1983-84	1988-89	1993-94	1999-00	2004-05	2009-10	2011-12
LFPR	Hindu	0.429 (0.0438)***	0.424 (0.0496)***	0.412 (0.0503)***	0.379 (0.0458)***	0.432 (0.0426)***	0.317 (0.0387)***	0.302 (0.0364)***
	SC/ST	0.610 (0.0463)***	0.599 (0.0449)***	0.586 (0.0480)***	0.542 (0.0456)***	0.560 (0.0430)***	0.416 (0.0422)***	0.399 (0.0363)***
	Hindu CF	0.515 (0.0484)***	0.503*** (0.0532)***	0.495*** (0.0523)***	0.460*** (0.0523)***	0.505*** (0.0460)***	0.369*** (0.0447)***	0.351*** (0.0407)***
Gap	Total	-0.181 (0.0309)	-0.175 (0.0282)	-0.174 (0.0293)	-0.162 (0.0223)	-0.128 (0.0247)	-0.0986 (0.0201)	-0.0965 (0.0167)
	Predicted	-0.0861 (0.0181)	-0.0798 (0.0158)	-0.0835 (0.0161)	-0.0808 (0.0155)	-0.0727 (0.0149)	-0.0518 (0.0126)	-0.0484 (0.0122)
	Unexplained	-0.0950 (0.0232)	-0.0955 (0.0219)	-0.0910 (0.0224)	-0.0815 (0.0187)	-0.0551 (0.0180)	-0.0469 (0.0133)	-0.0481 (0.0132)

Note: Hindu CF is the Hindu population reweighted to look like SC/ST population, Standard errors are reported in parenthesis. *p-value \leq 0.10, ** p-value \leq 0.05, *** p-value \leq 0.01

Table 2: Decomposition of Hindu-Muslim LFPR Gap (DFL Method)

		38 th	43 rd	50 th	55 th	61 st	66 th	68 th
		1983-84	1988-89	1993-94	1999-00	2004-05	2009-10	2011-12
LFPR	Hindu	0.429 (0.0438)***	0.424 (0.0496)***	0.412 (0.0503)***	0.379 (0.0458)***	0.432 (0.0426)***	0.317 (0.0387)***	0.302 (0.0364)***
	Muslim	0.262 (0.0237)***	0.273 (0.0279)***	0.232 (0.0213)***	0.228 (0.0167)***	0.253 (0.0180)***	0.184 (0.0174)***	0.203 (0.0210)***
	Hindu CF	0.391 (0.0355)***	0.374 (0.0404)***	0.362 (0.0394)***	0.335 (0.0411)***	0.393 (0.0363)***	0.305 (0.0353)***	0.292 (0.0302)***
Gap	Total	0.168 (0.0318)	0.151 (0.0356)	0.180 (0.0345)	0.151 (0.0388)	0.179 (0.0320)	0.133 (0.0273)	0.0996 (0.0272)
	Predicted	0.0388 (0.0138)	0.0498 (0.0157)	0.0499 (0.0132)	0.0448 (0.0232)	0.0390 (0.0158)	0.0119 (0.0158)	0.0101 (0.0131)
	Unexplained	0.129 (0.0212)	0.101 (0.0218)	0.130 (0.0238)	0.106 (0.0363)	0.140 (0.0256)	0.121 (0.0244)	0.0894 (0.0240)

Note: Hindu CF is the Hindu population reweighted to look like Muslim population, Standard errors are reported in parenthesis. *p-value \leq 0.10, ** p-value \leq 0.05, *** p-value \leq 0.01

Table 3: Decomposition of Hindu-SC/ST LFPR Gap (Oaxaca-Blinder Method)

		38 th	43 rd	50 th	55 th	61 st	66 th	68 th
		1983-84	1988-89	1993-94	1999-00	2004-05	2009-10	2011-12
LFPR	Hindu	0.429 (0.0409)***	0.424 (0.0462)***	0.412 (0.0460)***	0.379 (0.0421)***	0.432 (0.0399)***	0.317 (0.0358)***	0.302 (0.0334)***
	SC/ST	0.610 (0.0433)***	0.599 (0.0434)***	0.586 (0.0452)***	0.542 (0.0424)***	0.560 (0.0405)***	0.416 (0.0396)***	0.399 (0.0339)***
Gap	Difference	-0.181 (0.0305)***	-0.175 (0.0282)***	-0.174 (0.0278)***	-0.162 (0.0231)***	-0.128 (0.0248)***	-0.099 (0.0204)***	-0.096 (0.0173)***
	Predicted	-0.085 (0.0191)***	-0.081 (0.0200)***	-0.087 (0.0188)***	-0.083 (0.0159)***	-0.073 (0.0161)***	-0.048 (0.0140)***	-0.051 (0.0121)***
	Unexplained	-0.096 (0.0252)***	-0.094 (0.0210)***	-0.087 (0.0203)***	-0.079 (0.0176)***	-0.055 (0.0176)***	-0.051 (0.0156)***	-0.045 (0.0144)***
Predicted Gap	Personal	-0.028 (0.0057)***	-0.029 (0.0054)***	-0.038 (0.0058)***	-0.032 (0.0054)***	-0.032 (0.0049)***	-0.028 (0.0064)***	-0.024 (0.0053)***
	Household	-0.040 (0.0058)***	-0.045 (0.0050)***	-0.042 (0.0045)***	-0.036 (0.0035)***	-0.029 (0.0044)***	-0.014 (0.0037)***	-0.017 (0.0033)***
	Regional	-0.018 (0.0149)	-0.008 (0.0162)	-0.007 (0.0153)	-0.014 (0.0129)	-0.012 (0.0124)	-0.005 (0.0112)	-0.010 (0.0094)
<i>N</i>	110,851	119,416	106,574	112,356	111,815	87,764	87,346	
Explained (% of total)		46.96	46.29	50.00	51.23	57.03	48.48	53.13

Note: Standard errors are reported in parenthesis. *p-value≤0.10, ** p-value≤0.05, *** p-value≤0.01

Table 4: Decomposition of Hindu-Muslim LFPR Gap (Oaxaca-Blinder Method)

		38 th 1983-84	43 rd 1988-89	50 th 1993-94	55 th 1999-00	61 st 2004-05	66 th 2009-10	68 th 2011-12
LFPR	Hindu	0.429 (0.0409)***	0.424 (0.0462)***	0.412 (0.0460)***	0.379 (0.0421)***	0.432 (0.0399)***	0.317 (0.0358)***	0.302 (0.0334)***
	Muslim	0.262 (0.0241)***	0.273 (0.0272)***	0.232 (0.0219)***	0.228 (0.0182)***	0.253 (0.0189)***	0.184 (0.0175)***	0.203 (0.0223)***
Gap	Difference	0.168 (0.0315)***	0.151 (0.0336)***	0.180 (0.0339)***	0.151 (0.0368)***	0.179 (0.0314)***	0.133 (0.0261)***	0.100 (0.0268)***
	Predicted	0.030 (0.0289)	0.033 (0.0302)	0.040 (0.0290)	0.032 (0.0276)	0.028 (0.0257)	0.010 (0.0206)	0.005 (0.0204)
	Unexplained	0.137 (0.0195)***	0.118 (0.0185)***	0.139 (0.0206)***	0.118 (0.0253)***	0.152 (0.0184)***	0.123 (0.0187)***	0.095 (0.0170)***
Predicted Gap	Personal	-0.012 (0.0041)***	-0.010 (0.0049)*	-0.014 (0.0060)**	-0.009 (0.0057)	-0.009 (0.0055)	-0.013 (0.0053)**	-0.010 (0.0045)**
	Household	-0.015 (0.0055)***	-0.017 (0.0058)***	-0.019 (0.0053)***	-0.017 (0.0058)***	-0.018 (0.0056)***	-0.009 (0.0039)**	-0.011 (0.0032)***
	Regional	0.057 (0.0247)**	0.059 (0.0255)**	0.073 (0.0237)***	0.058 (0.0231)**	0.054 (0.0212)**	0.032 (0.0173)*	0.026 (0.0179)
<i>N</i>	99,524	108,986	93,522	99,432	98,912	78,311	80,085	
Explained (% of total)		17.86	21.85	22.22	21.19	15.64	7.52	5.00

Note: Standard errors are reported in parenthesis. *p-value≤0.10, ** p-value≤0.05, *** p-value≤0.01

Table 5: Decomposition of Hindu-SC/ST LFPR Gap (Oaxaca-Blinder Method including Predicted Income)

		38 th	43 rd	50 th	55 th	61 st	66 th	68 th
		1983-84	1988-89	1993-94	1999-00	2004-05	2009-10	2011-12
LFPR	Hindu	0.429 (0.0409)***	0.424 (0.0462)***	0.412 (0.0461)***	0.379 (0.0425)***	0.432 (0.0400)***	0.317 (0.0359)***	0.302 (0.0334)***
	SC/ST	0.610 (0.0433)***	0.599 (0.0434)***	0.586 (0.0452)***	0.542 (0.0427)***	0.560 (0.0407)***	0.416 (0.0397)***	0.399 (0.0340)***
Gap	Difference	-0.181 (0.0305)***	-0.175 (0.0282)***	-0.174 (0.0278)***	-0.162 (0.0229)***	-0.128 (0.0248)***	-0.099 (0.0204)***	-0.096 (0.0174)***
	Predicted	-0.095 (0.0263)***	-0.096 (0.0262)***	-0.112 (0.0202)***	-0.138 (0.0221)***	-0.106 (0.0180)***	-0.060 (0.0162)***	-0.052 (0.0155)***
	Unexplained	-0.086 (0.0306)***	-0.079 (0.0261)***	-0.062 (0.0216)***	-0.024 (0.0232)	-0.022 (0.0201)	-0.038 (0.0178)**	-0.044 (0.0172)**
Predicted Gap	Personal	-0.027 (0.0056)***	-0.028 (0.0054)***	-0.038 (0.0058)***	-0.032 (0.0052)***	-0.032 (0.0048)***	-0.028 (0.0063)***	-0.024 (0.0053)***
	Household	-0.036 (0.0092)***	-0.037 (0.0094)***	-0.026 (0.0084)***	-0.001 (0.0119)	-0.008 (0.0072)	-0.006 (0.0078)	-0.016 (0.0085)*
	Regional	-0.017 (0.0150)	-0.005 (0.0164)	-0.002 (0.0150)	0.001 (0.0133)	-0.003 (0.0119)	-0.000 (0.0120)	-0.010 (0.0104)
	Predicted Inc.	-0.015 (0.0277)	-0.026 (0.0288)	-0.046 (0.0199)**	-0.106 (0.0344)***	-0.063 (0.0181)***	-0.027 (0.0191)	-0.002 (0.0237)
<i>N</i>		110,851	119,416	106,574	112,356	111,815	87,764	87,346
Explained (% of total)		52.49	54.86	64.37	85.19	82.81	60.61	54.17

Note: Standard errors are reported in parenthesis. *p-value≤0.10, ** p-value≤0.05, *** p-value≤0.01

Table 6: Decomposition of Hindu-Muslim LFPR Gap (Oaxaca-Blinder Method including Predicted Income)

		38 th	43 rd	50 th	55 th	61 st	66 th	68 th
		1983-84	1988-89	1993-94	1999-00	2004-05	2009-10	2011-12
LFPR	Hindu	0.429 (0.0409)***	0.424 (0.0462)***	0.412 (0.0461)***	0.379 (0.0425)***	0.432 (0.0400)***	0.317 (0.0359)***	0.302 (0.0334)***
	Muslim	0.262 (0.0240)***	0.273 (0.0273)***	0.232 (0.0216)***	0.228 (0.0179)***	0.253 (0.0188)***	0.184 (0.0176)***	0.203 (0.0224)***
Gap	Difference	0.168 (0.0315)***	0.151 (0.0336)***	0.180 (0.0339)***	0.151 (0.0371)***	0.179 (0.0317)***	0.133 (0.0263)***	0.100 (0.0267)***
	Predicted	0.027 (0.0292)	0.032 (0.0302)	0.034 (0.0289)	0.008 (0.0278)	0.017 (0.0259)	0.008 (0.0207)	0.004 (0.0201)
	Unexplained	0.140 (0.0198)***	0.119 (0.0184)***	0.146 (0.0207)***	0.143 (0.0255)***	0.163 (0.0191)***	0.125 (0.0189)***	0.096 (0.0171)***
Predicted Gap	Personal	-0.012 (0.0041)***	-0.010 (0.0049)*	-0.014 (0.0060)**	-0.009 (0.0056)	-0.009 (0.0055)	-0.013 (0.0053)**	-0.010 (0.0045)**
	Household	-0.012 (0.0069)*	-0.014 (0.0091)	-0.007 (0.0085)	0.018 (0.0119)	0.002 (0.0070)	-0.006 (0.0093)	-0.009 (0.0089)
	Regional	0.057 (0.0247)**	0.059 (0.0256)**	0.072 (0.0230)***	0.046 (0.0238)*	0.047 (0.0207)**	0.032 (0.0173)*	0.026 (0.0178)
	Predicted Inc.	-0.006 (0.0094)	-0.003 (0.0092)	-0.017 (0.0107)	-0.048 (0.0200)**	-0.024 (0.0100)**	-0.004 (0.0104)	-0.003 (0.0101)
<i>N</i>		99,524	108,986	93,522	99,432	98,912	78,311	80,085
Explained (% of total)		16.07	21.19	18.89	5.30	9.50	6.02	4.00

Note: Standard errors are reported in parenthesis. *p-value≤0.10, ** p-value≤0.05, *** p-value≤0.01

Table 7: Measuring Role of Culture-IHDS II (Oaxaca Blinder Method)

		Hindu-SC/ST	Hindu-Muslim
LFPR	Hindu	0.389 (.005)***	0.389 (0.005)***
	SC/ST or Muslim	0.510 (.008)***	0.233 (0.009)***
	Difference	-0.122 (.009)***	0.155 (0.010)***
	Predicted	-0.081 (.005)***	0.063 (0.007)***
	Unexplained	-0.040 (.009)***	0.092 (0.011)***
	Explained	Personal	-0.008 (.003)***
	Household	-0.016 (.003)***	-0.008 (0.003)***
	Regional	-0.001 (.003)	0.071 (0.004)***
	Assets/Wealth	-0.042 (.004)***	-0.017 (0.002)***
	Culture	-0.014 (.002)**	0.018 (0.004)***
<i>N</i>		26,208	20,955

Note: Standard errors are reported in parenthesis. *p-value \leq 0.10, ** p-value \leq 0.05, *** p-value \leq 0.01

Table 8: Summary of Culture Variable- IHDS

	Hindu	Muslim	SC/ST
Mobility (0-4)	2.65	2.56	2.70
Decision making (0-6)	1.46	1.39	1.51
Violence (0-6)	2.97	2.85	2.91
Woman decides whether to work (0/1)	0.35	0.30	0.45
Observe head/face covering (0/1)	0.56	0.87	0.57

Table A1: Descriptive Statistics- Hindu

		38		43		50		55		61		66		68	
		Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Age Group	15-24	35.29	0.201	34.66	0.195	33.44	0.208	31.79	0.227	31.12	0.241	28.93	0.338	28.72	0.328
	25-39	37.07	0.203	37.98	0.2	38.84	0.217	40.47	0.243	39.98	0.255	40.76	0.37	40.81	0.356
	40-49	16.35	0.154	16.27	0.15	16.57	0.163	16.62	0.182	17.64	0.195	18.6	0.29	18.56	0.276
	50-59	11.29	0.137	11.09	0.127	11.15	0.139	11.13	0.149	11.26	0.159	11.71	0.245	11.92	0.229
Education	No Education	63.39	0.199	59.56	0.197	52.28	0.221	46.07	0.245	40.17	0.256	31.93	0.368	29.77	0.353
	Below Primary	7.86	0.108	8.94	0.114	9.36	0.128	8.81	0.134	8.72	0.145	8.35	0.222	8.6	0.208
	Primary	11.7	0.13	11.87	0.127	11.23	0.141	10.87	0.156	12.2	0.17	12.12	0.252	10.92	0.226
	Middle	9.02	0.112	9.29	0.112	11.97	0.138	14.58	0.171	16.23	0.189	16.83	0.27	16.61	0.258
	Secondary & higher	8.04	0.112	10.34	0.112	15.15	0.151	19.67	0.196	22.68	0.21	30.77	0.324	34.1	0.326
Head Age Group	0-30	15.85	0.159	15.18	0.151	13.44	0.157	11.51	0.166	9.85	0.166	8.63	0.22	8.79	0.22
	30-45	35.46	0.199	36.46	0.2	37.21	0.214	38.13	0.24	38.2	0.255	37.95	0.364	38.61	0.357
	45-60	35.82	0.202	35.99	0.195	37.27	0.213	36.68	0.235	37.62	0.247	39.4	0.369	38.67	0.347
	60-99	12.86	0.141	12.38	0.13	12.08	0.143	13.69	0.159	14.34	0.172	14.02	0.245	13.93	0.23
Head Education	No Education	41.72	0.207	38.88	0.205	34.67	0.214	32.59	0.231	29.99	0.242	25.8	0.35	25.03	0.338
	Below Primary	16.33	0.167	17.33	0.154	15.98	0.162	14.35	0.168	12.59	0.166	10.67	0.237	11.64	0.24
	Primary	16.4	0.15	16.1	0.146	14.36	0.154	13.11	0.176	14.43	0.182	14.2	0.266	12.17	0.231
	Middle	11.69	0.131	11.22	0.123	13.58	0.151	14.77	0.17	15.95	0.186	16.37	0.271	16.54	0.261
	Secondary & higher	13.87	0.146	16.46	0.144	21.41	0.175	25.18	0.211	27.03	0.23	32.95	0.338	34.61	0.329
Rural		74.39	0.174	75.18	0.161	72.62	0.18	71.58	0.221	71.61	0.236	68.82	0.31	68.38	0.302
Married		80.44	0.164	80.31	0.159	79.19	0.176	79.11	0.194	78.76	0.209	78.3	0.3	78.19	0.29
Salaried Men in HH		23.06	0.176	24.73	0.178	24.02	0.185	23.26	0.215	22.86	0.216	22.86	0.283	23.64	0.274
Female Headed		3.86	0.087	3.86	0.078	3.86	0.082	4.63	0.097	4.75	0.106	5.07	0.154	5.16	0.147
Children Below 5		1	0.005	0.94	0.005	0.81	0.005	0.78	0.005	0.72	0.005	0.61	0.007	0.51	0.006
HH Size		6.54	0.013	6.33	0.012	5.95	0.011	6.06	0.014	5.8	0.014	5.43	0.018	5.3	0.017
Unemployment Rate in Region		2.1	0.007	2.62	0.007	2.03	0.006	2.04	0.008	1.81	0.007	1.34	0.007	1.56	0.008
Secondary Education Rate in Region		14.99	0.045	17.59	0.044	23.14	0.053	27.11	0.065	28.86	0.072	36.65	0.108	38.21	0.101
Log MPCE		4.69	0.004	4.99	0.005	5.71	0.002	6.2	0.003	6.44	0.003	6.93	0.004	7.22	0.004
	<i>N</i>	80,369		88,261		78,794		80,154		79,067		61,829		62,090	

Table A2: Descriptive Statistics- Muslims

		38		43		50		55		61		66		68	
		Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Age Group	15-24	37.26	0.447	37.31	0.455	36.23	0.481	37.4	0.582	37.67	0.52	36.87	0.731	35.72	0.674
	25-39	37.45	0.47	37.82	0.462	39.59	0.49	39.38	0.558	37.29	0.512	38.39	0.744	38.53	0.692
	40-49	15.54	0.33	14.77	0.326	14.58	0.347	14.6	0.413	15.74	0.391	16.08	0.546	16.44	0.517
	50-59	9.75	0.269	10.1	0.283	9.59	0.292	8.62	0.278	9.31	0.309	8.66	0.437	9.31	0.396
Education	No Education	72.03	0.441	69.29	0.408	61.84	0.475	54.92	0.563	48.81	0.535	41.92	0.768	37.88	0.708
	Below Primary	9.81	0.341	10.96	0.275	11.9	0.317	11.03	0.311	11.85	0.33	11.13	0.473	11.43	0.478
	Primary	9.48	0.264	9.76	0.254	10.21	0.291	11.73	0.319	13.33	0.345	14.91	0.545	14.48	0.499
	Middle	5.28	0.213	5.94	0.189	9.38	0.275	12.19	0.352	13.54	0.331	15.1	0.496	15.6	0.473
	Secondary & higher	3.39	0.156	4.05	0.155	6.68	0.215	10.13	0.273	12.46	0.364	16.95	0.518	20.62	0.507
Head Age Group	0-30	17.63	0.364	18.3	0.39	17.07	0.391	14.74	0.511	11.87	0.365	11.57	0.527	10.38	0.444
	30-45	37.53	0.467	36.01	0.454	38.6	0.487	39.82	0.57	38.21	0.517	38.3	0.733	37.21	0.694
	45-60	33.64	0.435	34.08	0.443	33.8	0.464	34.45	0.531	37.74	0.522	37.01	0.724	39.85	0.685
	60-99	11.2	0.274	11.62	0.275	10.52	0.32	11	0.295	12.18	0.312	13.13	0.548	12.56	0.436
Head Education	No Education	53.43	0.472	51.19	0.47	48.63	0.501	44.79	0.591	44.05	0.536	40.04	0.755	39.25	0.718
	Below Primary	16.87	0.393	17.61	0.344	17.51	0.374	17.26	0.436	15.5	0.365	13	0.506	14.29	0.49
	Primary	13.81	0.305	14.7	0.309	13.04	0.333	12.65	0.326	15.57	0.364	16.3	0.568	15.74	0.495
	Middle	8.22	0.24	8.11	0.236	9.79	0.282	11.35	0.31	11.32	0.309	13.83	0.496	14.13	0.468
	Secondary & higher	7.67	0.251	8.39	0.228	11.03	0.289	13.95	0.372	13.57	0.381	16.82	0.549	16.6	0.438
Rural		65.31	0.438	68.55	0.401	65.18	0.441	65.02	0.484	66.48	0.506	65.7	0.641	63.05	0.632
Married		78.5	0.373	78.92	0.374	78.47	0.398	76.2	0.453	74.08	0.471	74.4	0.642	73.53	0.613
Salaried Men in HH		19.33	0.35	18.57	0.332	17.56	0.357	18.61	0.38	17.71	0.398	18.66	0.516	18.74	0.494
Female Headed		4.52	0.183	4.69	0.175	4.95	0.209	5.67	0.22	6.21	0.237	6.03	0.311	7.07	0.349
Children Below 5		1.23	0.012	1.18	0.01	1.06	0.011	1.05	0.013	0.92	0.012	0.75	0.017	0.73	0.014
HH Size		7	0.03	6.83	0.028	6.44	0.028	6.81	0.039	6.57	0.031	6	0.039	6.09	0.035
Unemployment Rate in Region		2.47	0.017	2.81	0.018	2.29	0.015	2.5	0.015	1.98	0.015	1.57	0.014	1.8	0.018
Secondary Education Rate in Region		17.26	0.11	19.41	0.1	24.9	0.126	28.66	0.158	29.45	0.147	36.16	0.242	38.32	0.216
Log MPCE		4.55	0.009	4.88	0.011	5.58	0.005	6.06	0.008	6.3	0.005	6.76	0.007	7.07	0.007
	<i>N</i>	19,155		20,726		14,728		19,278		19,845		16,482		17,995	

Table A3: Descriptive Statistics- SC/ST

		38		43		50		55		61		66		68	
		Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Age Group	15-24	34.41	0.314	35.16	0.308	32.46	0.32	32.77	0.34	33.03	0.362	32.21	0.532	31.69	0.511
	25-39	38.01	0.324	38.27	0.316	40.17	0.335	40.51	0.347	40.09	0.379	40.45	0.555	40.93	0.546
	40-49	17.02	0.287	15.73	0.235	16.49	0.259	16.53	0.269	16.83	0.289	17.16	0.428	16.8	0.406
	50-59	10.56	0.199	10.83	0.2	10.88	0.212	10.19	0.212	10.05	0.229	10.19	0.338	10.59	0.357
Education	No Education	86.96	0.224	85.16	0.218	78.89	0.273	70.16	0.338	62.87	0.366	50.22	0.566	47.62	0.556
	Below Primary	4.31	0.13	4.55	0.128	6.71	0.169	7.34	0.182	8.33	0.207	9.53	0.347	9.89	0.339
	Primary	4.62	0.145	4.95	0.132	5.76	0.154	7.59	0.207	9.88	0.221	12.52	0.369	11.92	0.358
	Middle	2.88	0.111	3.34	0.112	5.07	0.145	8.21	0.186	10.5	0.231	13.14	0.377	14.58	0.377
	Secondary & higher	1.23	0.071	2	0.079	3.58	0.12	6.7	0.217	8.41	0.201	14.59	0.352	15.99	0.361
Head Age Group	0-30	21.47	0.268	22.52	0.277	19.64	0.275	16.46	0.259	14.42	0.275	13.37	0.39	12.84	0.377
	30-45	38.13	0.324	37.65	0.314	39.69	0.335	41.22	0.357	41.18	0.381	41.61	0.56	41.76	0.548
	45-60	32.44	0.328	32.12	0.299	33.29	0.322	33.63	0.331	35.29	0.366	36.67	0.545	36.29	0.529
	60-99	7.96	0.17	7.71	0.167	7.38	0.175	8.69	0.185	9.11	0.217	8.36	0.292	9.12	0.314
Head Education	No Education	67.57	0.323	66.42	0.302	62.27	0.33	57.01	0.355	51.76	0.385	45.31	0.568	43.1	0.557
	Below Primary	14.08	0.258	13.65	0.217	14.54	0.242	13.7	0.233	14.16	0.273	12.8	0.391	14.53	0.391
	Primary	9.86	0.198	10.16	0.198	9.79	0.199	10.01	0.203	12.39	0.246	14.01	0.391	13.7	0.38
	Middle	5.19	0.138	5.63	0.139	6.97	0.172	9.27	0.197	11.09	0.235	13.03	0.362	13.26	0.358
	Secondary & higher	3.29	0.132	4.14	0.124	6.43	0.161	10.01	0.262	10.6	0.232	14.85	0.36	15.41	0.353
Rural		86.57	0.227	87.46	0.185	86.49	0.199	84.13	0.226	83.72	0.275	83.6	0.314	81.52	0.346
Married		83.95	0.235	83.78	0.233	83.08	0.252	80.88	0.291	79.67	0.304	78.35	0.461	78.48	0.445
Salaried Men in HH		16.34	0.242	16.74	0.231	14.26	0.226	15.11	0.293	15.96	0.274	15.52	0.342	16.83	0.369
Female Headed		2.7	0.1	3.06	0.11	3.21	0.119	3.44	0.119	4.66	0.155	4.95	0.239	5.48	0.244
Children Below 5		1	0.008	1.01	0.007	0.88	0.007	0.83	0.007	0.8	0.008	0.65	0.01	0.58	0.01
HH Size		5.99	0.02	5.82	0.016	5.54	0.016	5.78	0.017	5.66	0.019	5.37	0.025	5.25	0.024
Unemployment Rate in Region		1.65	0.01	2.11	0.01	1.72	0.009	1.75	0.009	1.61	0.01	1.21	0.01	1.38	0.011
Secondary Education Rate in Region		11.45	0.062	13.78	0.054	18.37	0.065	22.68	0.075	24.45	0.088	31.36	0.128	33.11	0.134
Log MPCE		4.39	0.007	4.65	0.009	5.42	0.003	5.94	0.003	6.13	0.003	6.62	0.005	6.9	0.005
	<i>N</i>	30,482		31,156		27,780		32,202		32,748		25,935		25,256	

Comparing Counterfactual Populations

Figures A1- A4

