Wage Inequality

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July 2019

Chapter 6
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6.1 Introduction

The purpose of this chapter is to consider wage inequality in India at a point in time (2001-2012) with particular reference to inequality in wages between male and female workers and between workers from different social groups – the Scheduled Tribes (ST), the Scheduled Cates (SC), the non-Muslim Other Backward Classes (OBC-NM), Muslims, and the Forward Castes (FC).[1] The thrust of the analysis in this chapter is to decompose the difference in wages between men and women, and between the FC and the other social groups, into a part that can be "explained" by employer bias and that which is due to differences in employee attributes.[2]

A precursor to the work reported in this paper is that of Das (2012) who examined wage inequality in India using National Sample Survey data for the 61st round (2004-05). Using the Gini Index to decompose inequality, Das (2012) examined the within and between group contributions to inequality by sector (public, private, and informal), by location (rural, urban), by employment type (casual, regular), and by gender. In a similar vein, Glinskaya and Lokshin (2005), using the National Sample Surveys for 1993-94 and 1999-2000, investigated wage differentials between the public and private sectors while Galbraith *et. al.* (2004), using, principally, Annual Survey of Industries data, examined pay inequality in India's manufacturing sector for 1997-98. In operational terms, this chapter extends these earlier analyses to include social groups, and methodologically, unlike, these studies, it seeks an explanation for inter-group inequality in terms of employer bias and (differences in) employee attributes.

6.2 Wages in India

The data for this chapter's analysis of wages in India were obtained from two separate and independent sources: the 68th round of the National Sample Survey (hereafter, NSS 68th round) pertaining to the period July 2011-June 2012 and the Indian Human Development Survey for 2011 (hereafter, IHDS-11). The NSS provided details of a person's current weekly status in terms of

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[1] Where the latter include Christians, Sikhs, and Jains who are not from the ST/SC/OBC-NM.
[2] This chapter does not address the issue of the evolution of wage inequality over time, a topic which has been extensively discussed by Dutta (2005), Chamarwagwala (2006), Kijima (2006), Mazumdar *et. al.* (2017a and 2017b), Mazumdar and Sarkar (2008), Sarkar and Mehta (2010).

whether in the course of a reference week he/she was in Regular Salaried or Wage Employment (RSWE); in casual wage employment (CWE); an own account worker (OAW); or unemployed (UE). The NSS also reported on the intensity with which an employed person worked on each day of the reference week where this intensity referred to whether he/she worked a full day (value 1) or a half day (value 0.5). The maximum and minimum number of (full) days an employed person could work in a week was, therefore, 7 and 0.5, respectively.[3] The NSS also reported on the *total* wages received by every person who was employed during that week; dividing total wages by the number of *full* days worked – that is total number of days worked in the reference week, adjusted for intensity - then yielded the *daily* wage rate. This daily wage rate is analysed in this chapter under the aegis of the NSS.

The IHDS-11, in its section on wage and salary data, provided information for employed persons on their payment period (daily, monthly, or fixed) and also the cash they received during the payment period. From these data, the monthly wage of each person was computed as follows: for those whose payment period was daily, the monthly wage was their reported cash/period multiplied by 30; for those whose payment period was monthly, the monthly wage was their reported cash/period; for those who received a fixed payment, their monthly wage was their reported cash/period divided by the number of days they worked (to obtain their daily wage) multiplied by 30.[4]

<Tables 6.1 and 6.2>

Table 6.1 shows the average daily wage, while Table 6.2 shows the average monthly wage, for persons, between the ages of 21 and 60 (hereafter, simply "persons"), distinguished by gender and by the five social groups: Scheduled Tribes (ST); Scheduled Castes (ST); non-Muslim Other Backward Classes (OBC-NM); Muslims; and Forward Castes (FC). The first feature of note in Table 6.1 is that the average daily wage of women over all occupations, at ₹177, was only 57% of the male daily wage of ₹309. The second feature of note in Table 6.1 is that the average daily wage, over all occupations, of persons from the ST, SC, OBC-NM, and of Muslims at, respectively, ₹187, ₹200, ₹244, and ₹221 was less than half the average daily wage of ₹484 obtained by persons from the FC.

[3] By definition, an unemployed person did not work on any day of the week.

[4] I am grateful to Ajaya Kumar Naik for advice on calculating wage rates from NSS and IHDS-11 data.

These findings are echoed by the calculations of the monthly wage rate from IHDS-11data where these data, it should be reiterated, are separate and independent of those from the NSS. Table 6.2 shows that average monthly wage of women over all occupations, at ₹3,531, was only 54% of the male daily wage of ₹6,518 and, further, that the average monthly wage, over all occupations, of persons from the ST, SC, OBC-NM, and of Muslims at, respectively, ₹3,814, ₹4,773, ₹5,323, and ₹5,294 was 60% or less of the average monthly wage of ₹8,896 obtained by persons from the FC.

In terms of occupations, Table 6.1 shows that the spread of daily wages was much greater in the RSWE occupation than among CWE or OAW: for those in RSWE, the ratio of the largest average daily wage of ₹628, obtained by persons from the FC, to the lowest daily wage of ₹341 for Muslims, was 1.84 while, for those in CWE, the ratio of the largest average daily wage of ₹151, obtained by Muslims, to the lowest daily wage of ₹114, received by persons from the SC, was 1.32. However, this did not apply to the ratio of male to female wages: this ratio was 1.51 for those in RSWE and in CWE.

Table 6.2 shows that the ratio of the highest to the lowest monthly wage in the P&E occupations – respectively, ₹17,216 for the FC and ₹11,894 for the ST – was 1.44 while the ratio of male to female wages in the P&E occupations – at, respectively, ₹17,227 and ₹10,210 – was 1.68. In terms of the monthly wage, the smallest high-to-low ratios were recorded for construction: ratio of the monthly wages of ₹4,461 and ₹3,625, obtained by, respectively, persons from the FC and the ST was 1.23 while the male-female monthly wage ratio in construction was 1.38.

One of the most popular ways of measuring inequality is by the *Gini coefficient* which is computed as follows. If N is the number of persons, w_i is the wage of person i and $\bar{w}$ is the mean wage, computed over the N persons, the Gini coefficient is defined as:

$$G = \frac{1}{2N^2\bar{w}} \sum_{i=1}^{N} \sum_{j=1}^{N} | \mathrm{w}_i - w_j | \quad (6.1)$$

In other words, the Gini coefficient is computed as half the mean of the difference in wages between pairs of respondents, divided by the average wage ($\bar{w}$). One can also, from the Gini coefficient compute a measure of welfare (*W)* due to Sen (1976). The idea behind this measure, represented by $W = \bar{w}(1-G)$, is that welfare rises with increases in the average wage, $\bar{w}$, but falls as inequality in the distribution of wages rises. There is thus a trade-off between the welfare-enhancing property of the average wage and the welfare-diminishing property of inequality in the wage distribution and it is this trade-off that Sen's (1976) welfare measure seeks to capture.

<Tables 6.3 and 6.4>

Tables 6.3 and 6.4 show the Gini and the welfare values for, respectively, the distributions of the daily (derived from the NSS) and monthly (derived from the IHDS-11) wages. Computed over all persons, the Gini values were 0.498 and 0.424 for, respectively, daily and monthly wages. In order to place this context, the World Bank reported that for 2011 the Gini value associated with the distribution of *incomes* in India was 0.352 and this was lower than that the USA's 0.41 and China's 0.422. Needless to say, wage inequality might be expected to be higher than income inequality not least because the former excludes, but the latter includes, the equalising effect of government social welfare transfers.

Also shown In Tables 6.3 and 6.4 are the Gini values associated with the different occupational categories and the different subgroups of the population. In terms of the distribution of the NSS's daily wage, the highest level of inequality was associated with RSWE (Table 6.3: Gini=0.477) with both CWE and OAW displaying much more compressed distributions with associated Gini values of respectively, 0.267 and 0.260.This finding was echoed in Table 6.4: the highest level of inequality in the distribution of the IHDS-11's monthly wage was associated with P&E and sales/service occupations (Table 6.4: Gini=0.466 and 0.49, respectively) in contrast to the Gini values of 0.262 and 0.234 for, respectively, agricultural labour and construction. This meant that the difference in *welfare levels* between those in RSWE (Table 6.3: ₹247) and those in CWE and OAW (₹106 and ₹105, respectively) was *smaller* than differences in average daily wages (Table 6.1: ₹472, ₹144, and ₹143 for, respectively, RSWE, CWE, and OAW). Similarly, the difference in *welfare levels* between those in P&E jobs (Table 6.4: ₹8,047) and those that were agricultural labourers or worked in construction (₹2,559 and ₹3,175, respectively) was *smaller* than differences in average monthly wages (Table 6.2: ₹15,075, ₹3,471, and ₹4,144 for, respectively, P&E, agriculture, and construction).

In terms of the social groups, inequality (measured over all persons), with respect to both daily and monthly wages, was *highest* within the FC (Table: 6.3: Gini=0.528 and Table 6.4:

Gini=0.485) and, for the daily wage, *lowest* within the SC (Table 6.3: Gini=0.406) and, for the monthly wage, *lowest* within the ST (Table 6.4: Gini=0.333). The overall level of inequality, for daily wages, was fairly similar for men and women (Table 6.3: respectively, 0.481 and 0.487) though, underlying this, was a *greater* degree of inequality in RSWE for women than for men (Table 6.3: respectively, 0.559 and 0.454) compensated for by a *lower* degree of inequality for women than for men in CWE and OAW (Table 6.3: respectively, 0.218 and 0.257 for CWE and 0.183 and 0.261 for OAW). In respect of money wages, the overall level of inequality was *lower* for men than for women (Table 6.4: respectively, 0.412 and 0.357) though, underlying this, was a *greater* degree of inequality in P&E jobs for women than for men (Table 6.4: respectively, 0.524 and 0.429) balanced by a *lower* degree of inequality for women than for men in agriculture and construction (Table 6.4: respectively, 0.206 and 0.259 for agriculture and 0.153 and 0.247 for construction).

6.3 The Decomposition of Wage Inequality

The analysis of wage inequality in the previous section, encapsulated in Tables 6.3 and 6.4, highlighted three factors which affected a person's daily (NSS), or monthly (IHDS-11), wage: social group; gender; and occupation. This section examines, using the tools of inequality decomposition, the relative contribution of these three factors to inter-personal inequality in wages.

The method of inequality decomposition divides overall inequality into two parts: 'between-group' and 'within-group' part inequality. When the decomposition is *additive*, overall inequality can be written as the *sum* of within group and between group inequality:

$$\underbrace{I}_{\text{overall ineqality}} = \underbrace{A}_{\text{within group inequality}} + \underbrace{B}_{\text{between group inequality}} \qquad (6.2)$$

When inequality is additively decomposed then one can say that the basis on which the individuals were subdivided (say, gender) contributed [(B/I)×100] percent to overall inequality, the remaining inequality, [(A/I)×100] percent, being due to inequality *within* the subgroups of men and women. So, inequality decomposition provides a way of analysing the extent to which inter-personal inequality (in this case, in wages) is 'explained' by a factor or a set of factors. If, indeed, inequality can be 'additively decomposed' then, as Cowell and Jenkins (1995) have shown, the proportionate contribution of the between-group component (**B**) to overall inequality is the income inequality literature's analogue of the R^2 statistic used in regression analysis: the size of this contribution is a measure of the amount of inequality that can be 'explained' by the factor (or factors) used to subdivide the sample.

Only inequality indices belonging to the family of *Generalised Entropy Indices* are additively decomposable (Shorrocks, 1980). These indices are defined by a parameter θ and, when $\theta=0$, the weights are the population shares of the different groups (that is, $\lambda_j = N_j / N$); since the weights sum to unity, the within-group contribution **A** of equation (6.2) is a weighted average of the inequality levels within the groups. When $\theta=0$, the inequality index takes the form:

$$I(\mathbf{w};N) = \left(\sum_{i=1}^{N} \log(w_i / \overline{w}) \right) / N \qquad (6.3)$$

where: $\overline{w} = \sum_{i=1}^{N} w_i / N$ is the mean wage over the entire sample. The inequality index defined in equation (6.3) is known as the Theil's (1967) Mean Logarithmic Deviation (MLD) and, because of its attractive features in terms of the interpretation of the weights, it was the one used in this chapter to decompose wage inequality.

<Table 6.5>

Table 6.5 shows the contributions that each of these factors made to overall inequality in daily and in monthly wages. The contribution of between group inequality to overall inequality in *daily* wages was 6.3%, 14.9%, and 41.7% when the division of the sample was by, respectively, gender, social group, and employment status. So, again using the language of Cowell and Jenkins (1995), 63% of overall inequality in daily wages could be "explained" by a collective of these three factors with employment status "explaining" 42%. Table 6.5 also shows that the contribution of between group inequality to overall inequality in *monthly* wages was 12.4%, 9.8%, and 35.8% when the division of the sample was by, respectively, gender, social group, and occupation. So, using the language of Cowell and Jenkins (1995), 58% of overall inequality in monthly wages could be "explained" by a collective of these three factors with employment status "explaining" 36%.

6.4. The Equally Distributed Equivalent Wage

Tables 6.1 and 6.2 showed, respectively, the average daily and monthly wages of persons of 21-60 years of age disaggregated by gender, by social group, and by employment status (NSS) and occupation (IHDS-11). Focusing exclusively on a group's mean income, and ignoring inequality in the distribution of these incomes between members of the group's, however, risks overstating its income achievement. Suppose that $\bar{X}$ is the mean wage of N persons indexed *(i=1…N)*, belonging to a particular group. We know that, because of wage inequality, not every person in the group receives the average wage. Therefore, in assessing the "wage achievement" of a group one must know by how much one should reduce its mean wage to take account of inequality in individual wages.

In his seminal paper on income inequality, Atkinson (1970) argued that society would be prepared to accept a reduction in average income, from a higher average income which was unequally distributed, *provided the lower income was equally distributed*.[5] Consequently, one could reduce the mean wage, $\bar{X}$, of a group by the amount of intra-group inequality in wages to arrive at X^e, the "equally distributed equivalent" (*EDE*) wage where $X^e \leq \bar{X}$. The *EDE* wage, X^e - as the wage of every person within that group (that is, equally distributed between the group's members) - would give the same level of welfare as the (unequally distributed) $\bar{X}$ or, in other words, would be "welfare equivalent" to $\bar{X}$.

The size of this reduction depended upon one's degree of "inequality aversion" which Atkinson (1970) measured by the value of a (inequality aversion) parameter, $\varepsilon \geq 0$. When $\varepsilon = 0$, there was no inequality aversion implying that one would not be prepared to accept *any* reduction in average income in order to secure a more equitable distribution. The degree of inequality aversion increased with the value of ε : the higher the value of ε, the greater one's aversion to inequality and the greater the reduction in average income that one would find acceptable in order to secure an equitable distribution of income.

[5] In the language of economics, the two situations would yield the same level of social welfare, that is, be 'welfare equivalent'.

Three special cases, contingent upon the value assumed by ε , may be distinguished (Anand and Sen, 1997):

1. When $\varepsilon = 0$ (no inequality aversion), X^e is the *arithmetic mean* of the individual wages in the group: $X^e = \bar{X}$
2. When $\varepsilon = 1$, X^e is the *geometric mean* of the individual wages in the group:

   $$X^e = \left[\prod_{i=1}^{N} (X_i)^N \right]^{1/N} < \bar{X}$$

3. When $\varepsilon = 2$, X^e is the *harmonic mean* of the individual wages in the group:

   $$X^e = N \sum_{i=1}^{N} \frac{1}{X_i} < \bar{X}$$

A Diagrammatic Analysis

It may be useful to present the analysis of the preceding paragraphs in diagrammatic terms. Figure 6.1 portrays a world of two persons (*R* and *S*) who are required to 'share' a given mean wage, $\bar{W}$, in terms of their individual wages, W_R and W_S. The horizontal axis of Figure 6.1 measures W_R and the vertical axis measures W_S. The two wages are related to the aggregate wage by the 'sharing' equation: $\bar{W} = (W_R + W_S)/2$ and this is represented in Figure 6.1 by the 'sharing possibility line', *MN*. The point *X*, on *MN*, lies on the 45^0 line passing through the origin and, so, *X* is the point at which $W_R = W_S$.

<Figure 6.1>

Given the mean wage, $\bar{W}$, the observed distributional outcome may be viewed as a mapping of $\bar{W}$ to a point on MN which establishes W_R and W_S. Different outcomes will locate at different points of MN. Those that locate closer to the point *X* (for example, *B*) will be more egalitarian than those (like *A*) which locate further away.

If every person is assigned the same *concave* utility function *U(.)*, then $U(W_i)$ is the utility that person *i* (*i=R,S*) obtains from a wage of W_i and 'social welfare', denoted by *Q,* is defined as the sum of the utilities of all the children:

$$Q = U(W_R) + U(W_S) \qquad (6.4)$$

The curves QQ and Q′ Q′ represent indifference curves associated with the welfare function of equation (6.4), the higher curve (QQ) representing a higher level of utility than the lower curve (Q′ Q′) and these welfare indifference curves are superimposed upon the sharing possibility line.[6] Since the utility functions $U(.)$ in equation (6.4) are assumed to be concave (that is, embodying the property of diminishing marginal utility), social welfare is maximised when $W_R = W_S$ that is, when both receive the same wage.[7] Consequently, *X* is the point at which welfare is maximised and is the point at which the indifference curve, *QQ*, is tangential to the sharing possibility line, *MN*. The distribution, however, delivers an outcome at point *A* at which person *R* receives a higher wage ($W_R = OF$) and person *S* a lower score ($W_S = AF$). The outcome at point *A* is welfare equivalent to that at point *C* at which both persons receive the same score ($W_R = W_S = CD$). *CD* is then defined as the equally distributed equivalent (*EDE*) wage

<Figure 6.2>

The value of the inequality aversion parameter, ε determines the curvature of the indifference curves. The larger the value of *ε*, the more 'bow-shaped' will be the indifference curve and the smaller the value of *ε*, the flatter will be the indifference curve. This is illustrated in Figure 6.2 in which *QQ* and $W'W'$ represent, respectively, indifference curves associated with a low and a high value of ε. Both curves pass through the point *A* on the shares possibility line *MN* but *CD*, the EDE wage associated with *QQ* (low ε), is greater than C′D′, the EDE wage associated with $Q'Q'$ (high *ε*).

<Table 6.6>

Table 6.6 shows the EDE daily and monthly wage for different levels of inequality aversion as defined by the inequality aversion parameter, *ε*. When $\varepsilon=0$, there is no inequality aversion and the average wage (as shown in the columns of Table 6.1 and 6.2) is the same as the EDE wage. Persons

[6] An indifference curve shows the different combinations of W_R, W_S which yield the same level of welfare. It is obtained by holding *Q* constant in equation (6.4) and solving for the different W_R, W_S which yield this value of *Q*.

[7] Because of concavity, an egalitarian transfer from *R* to *S* will increase welfare: the gain in utility to *S* will exceed the loss to *R*. Welfare will be maximised when no further net gain is possible that is, when $W_R = W_S$.

who have no aversion to inequality (that is, those for whom *ε=0*) do not see any loss of social welfare resulting from inequality in the distribution of wages: for them all that matters is the average (that is, *arithmetic* mean) wage.

For persons with "mild" inequality aversion (*ε=1*), the *geometric* mean of wages, *if equally distributed among all wage earners*, would give the same level of welfare as the arithmetic mean, unequally distributed as in the sample. Table 6.6 shows that such persons would countenance a reduction in average wages from ₹276 to ₹182, a reduction of 34%, provided the ₹182 was equally distributed. For persons with "strong" inequality aversion (*ε=2*), the *harmonic* mean of wages, *if equally distributed among all wage earners*, would give the same level of welfare as the distribution which yields the arithmetic mean of the sample. Table 6.6 shows that such persons would countenance a reduction in average wages from ₹276 to ₹136, a reduction of 51%, provided the ₹136 was equally distributed.

A similar story emerges with respect to monthly wages. Mild inequality aversion, with *ε=1*, yields a EDE monthly wage of ₹4,077 which is 26% below the arithmetic mean of ₹5,539 while strong inequality aversion, with *ε=2*, yields a EDE monthly wage of ₹3,045 which is 45% below the arithmetic mean of ₹5,339. The thrust of this analysis is that in assessing a country's achievements with regard to wages, account needs to be taken of the average level of wages and also inequality in these wages between groups and between persons. These "equity-sensitive' wages measure, using the language of Sen (1993), the effectiveness with which different groups and persons *function* in the labour market and they draw attention to the importance of raising the *capabilities* of vulnerable groups and persons to function more effectively. In consequence, instead of ignoring issues about inequality, the use of equity-sensitive wages opens up a policy debate about the amount of inequality that is acceptable in a particular society.

6.5 Gender Disparity and Discrimination in Monthly Wages

The disparity in wages between men and women raises the vexed question of the sources of such disparity. Do women receive lower wages than men because of *employer bias* – in other words, are women penalised simply because they are women? Or is it the case that, in terms of employment, women have less favourable attributes than men and that their lower wages are due to a paucity of *employee attributes*? Or, as is more likely, is wage disparity driven by both employer bias and employee attributes in which case it is important to estimate the shares of bias and attributes in determining overall disparity.

The first step towards answering this question lay in using IHDS-11 data to estimate a regression equation in which the monthly wages of persons (aged 21-60 years) was the dependent variable to be explained by several independent variables:

1. Social group: ST, SC, OBC-NM, Muslim, FC.
2. Education: none, up to primary, above primary and up to secondary, higher secondary; graduate and above.
3. Fluency in English: none, little fluency, fluent.
4. Location: metropolitan, non-metropolitan urban, developed village, less developed village.
5. The nature of the employment contract: casual, less than 1 year's tenure, permanent.
6. Employer: public sector, private employer, private firm, NREGA, other employer.
7. Occupation: professional and executive, clerical, sales/service, agricultural labour, construction, other non-farm.
8. Age band: 21-30 years, 31-40 years, 41-50 years, 51-60 years.
9. The state in which the person lived.

The innovation about the wage equation, outlined above, was that each of the variables 1-9, above, was interacted with a gender variable which took the value 0 if the person was male and the value 1 if the person was female. In order to appreciate the difference between an 'interacted' and a 'non-interacted' equation consider the following equation for the wage w_i which is explained by two explanatory variables X (education) and Z (gender), for observations indexed $i=1...N$, without and with interaction between X and Z.

$$\begin{aligned} w_i &= \alpha + \beta X_i + \gamma Z_i \\ w_i &= \alpha + \beta X_i + \gamma Z_i + \phi\left(X_i \times Z_i\right) \end{aligned} \tag{6.5}$$

In the first equation, the effects of social group and gender on wages are independent of each other: the effect of social group is the same (β) regardless of whether the person is male or female. In the second, interacted equation, the effect of social group is different between men and women: β for men and $\beta+\phi$ for women. Consequently, the interacted equation allows, for every group, the predicted wage for men and women from that group to be different and, furthermore, it allows one to test whether this difference was significantly different from zero.

Using the methodology developed in earlier chapters, a major purpose of this chapter was to disentangle the effects of employer bias and employee attributes on the observed wages of men and women. These observed wages are referred to as the average predicted wages because if the regression model was used to *predict* the wage for each of the *N* persons in the sample (denoted $\hat{w}_i$, $i = 1...N$) then the average of these $\hat{w}_i$, computed over the subsamples of men and of women, would equal the *observed* wage of men and women. This is because the regression model has the property of passing through the mean. So, $\hat{w}^M$ and $\hat{w}^F$, the *average predicted wage* from the regression model of, respectively, men and women would be the same as the *observed wage* of men and women. In contrast to the average wages of men and women are average *synthetic* wages of men and women, denoted, respectively, $\tilde{w}^M$ and $\tilde{w}^F$, where these synthetic wages were computed on the basis of simulations based on the method of *recycled proportions* (described also in previous chapters) summarised below.

In order to compute the synthetic wages of men, it was assumed that all the *N* persons in the estimation sample were men or, in other words, the male coefficient (β in equation (6.5)) were applied to every person in the sample to predict that person's wage, $\tilde{w}_i^M$. Then holding the values of the other variables constant (either to their observed sample values, as in this chapter, or to their mean values over the estimation sample), the average of the $\tilde{w}_i^M$ over the *N* persons was computed and denoted $\tilde{w}^M$. Next, to compute the synthetic wages of women, it was assumed that all the *N* persons in the estimation sample were women or, in other words, the female coefficient ($\beta+\phi$ in equation (6.5)) was applied to every person in the sample to predict that person's wage, $\tilde{w}_i^F$. Then holding the values of the other variables constant (either to their observed sample values, as in this chapter, or to their mean values over the estimation sample), the average of the $\tilde{w}_i^F$ over the *N* persons was computed and denoted $\tilde{w}^F$.

Since the values of the non-gender variables (social group, education, fluency in English, location, employer type, age, and state of residence) were unchanged between these two (all-men and all-women) scenarios, the only difference between the two synthetic wages, $\tilde{w}^M$ and $\tilde{w}^F$, was that the first wage was the result of applying the male coefficients, while the second wage was the result of applying the female coefficients, to the entire sample. Consequently, the difference between the two synthetic wages, $\tilde{w}^M$ and $\tilde{w}^F$, was *entirely* due to a difference in gender because all other differences between the men and women in the sample had been neutralised by assigning them the attributes of the entire sample.

In essence, therefore, in evaluating the effect of two characteristics *X* and *Y* on a particular outcome, the method of "recycled proportions" compares two outcomes: first, under an "all have the characteristic *X*" scenario and, then, under an "all have the characteristic *Y*" scenario, *with the values of the other variables unchanged between the scenarios.* The difference between the two synthetic outcomes is then entirely due to the effect of the different attributes represented by *X* and *Y* (in this case, gender).[8]

<Table 6.7>

Table 6.7 shows the results from estimating the wage equation, with gender interaction effects, on data for 54,702 persons from the IHDS-11 who were between the ages of 21 and 60 years. Following the advice of Long and Freese (2013), the results are presented in terms of the synthetic wages for men and women for the different variable categories. The synthetic wages for men and women, across all persons, were $\tilde{w}^M =$ ₹5,864 and $\tilde{w}^F =$ ₹3,923, respectively. It should be emphasised that these wages were obtained by applying male and female coefficients, respectively, to the entire sample and that they were different from the male and female wages *observed* in the estimation sample, of, respectively, $\hat{w}^M =$ ₹6,110 and $\hat{w}^F =$ ₹3,517.[9] The difference in the male female synthetic wage was ₹1,941and dividing this difference by the standard error of 56 yielded a t-value of 34.4 which, in turn, meant that this difference was significantly different from zero. In other

[8] STATA's margin command performs these calculations. See Long and Freese (2013).
[9] The latter were obtained by computing the average wage after applying, respectively, the male coefficients to the male subsample and the female coefficients to the female subsample

words, employer bias ensured that women, on average, were paid a monthly wage which was ₹1,941 less than that of men.

The results from Table 6.7 showed that female monthly wages were significantly lower than of men for every category of the independent variables. For every level of education (for example, graduate women were paid ₹1,089 per month less than graduate men) and every type of job contract (for example, women with permanent jobs received ₹2,229 less than their male counterparts) women received a lower wage than men. For every employer, occupation, and location women, on average, were paid significantly less than men. Women in every social group, and in every age band, received a significantly lower monthly wage than their male counterparts. And all these differences were the result of employer bias: *women were penalised for simply being women*.

Quantifying Gender Discrimination in Wages

The observed monthly wage of men and women in the *estimation sample* (remembering that the estimation sample was restricted to 54,702 persons between ages of 21 and 60 years of age) were, respectively, ₹6,110 and ₹3,517 yielding a difference $\hat{w}^M - \hat{w}^F$ =₹2,593. This observed difference in wages between men and women was the outcome of two forces: (i) employer bias against women which resulted in the (unjustifiably) unequal treatment of *equals*; (ii) differences between men and women in employee attributes which resulted in the (arguably, justifiable) unequal treatment of *unequals.*

The synthetic wages for men and women, respectively, $\tilde{w}^M$ and $\tilde{w}^F$ were obtained by keeping, for every person, the value of each of their attribute variables unchanged, *except for a change to gender*. Differences in the average synthetic wage between men and women, $\tilde{w}^M - \tilde{w}^F$, were, therefore, entirely the outcome of gender differences and, therefore, could be regarded as the outcome of employer bias against women.

Consistent with the decomposition methodology set out in detail in the previous chapters, the observed difference in male and female wages can be decomposed as:

$$\overbrace{\hat{w}^M - \hat{w}^F}^{Z} = \overbrace{(\tilde{w}^M - \tilde{w}^F)}^{A} + \left[\overbrace{(\hat{w}^M - \tilde{w}^M)}^{B} - \overbrace{(\hat{w}^F - \tilde{w}^F)}^{C} \right] \tag{6.6}$$

The terms Z and A in equation (6.6) represent the difference between men and women in their, respectively, observed average monthly wage (Z) (in the following discussion, it is assumed that $\hat{w}^M > \hat{w}^F$ that is, the term $Z>0$) and in their *synthetic* wage (A) where, as discussed earlier, the term A represents the difference which is due *solely* to differences in gender (so that it would be legitimate to regard it as resulting from discrimination against women resulting from employer bias).[10] The term $Z - A$ represents the amount of the overall wage difference between men and women that is due to discrimination.

The terms B and C in equation (6.6) could be positive or negative. If say, $B>0$, then $\hat{w}^M > \tilde{w}^M$ and the observed male wage is greater than the wage which would result if male coefficients were applied to the *collective* of men and women. This implies that men had "wage determining attributes" which were *superior* to the collective level of attributes. On the other hand, $B<0$, would imply that men had "wage determining attributes" which were *inferior* to the collective level of attributes.

Similarly if, say, $C>0$, then $\hat{w}^F > \tilde{w}^F$ and the observed female wage is greater than the wage which would result if female coefficients were applied to the collective of men *and* women. This implies that women had "wage determining attributes" which were *superior* to the collective level of attributes. On the other hand, $C<0$, would imply that women had "wage-determining" attributes which were *inferior* to the collective level of attributes.

If, in equation (6.6), the term (B-C)>0 then it adds to the discriminatory wage gap A so that the observed wage gap exceeds the discriminatory wage gap: $Z-A>0$. On the other hand, the discriminatory wage gap, A, is reduced if (B-C)< 0 and, in consequence, $Z-A<0$. The term B-C can be interpreted, therefore, as representing the amount of the overall wage difference between men and women that is due to a difference in attributes. In this context, there are two main possibilities:

1. $A>0$ and $(B-C)>0$. In this situation, $Z>0$ partly because of discrimination ($A>0$) and partly because of the relative superiority of male over female attributes ($B-C>0$): this implies, $Z>A$. If $\delta = A / Z$ and $\lambda = (B - C) / Z$ measure the proportions of the observed wage gap between

[10] See chapter 3 for a more detailed discussion of this decomposition.

men and women that is due, respectively, to employer bias and employee attributes, then $0<\delta<1$ and $0<\lambda<1$.

2. $A>0$ and $(B\text{-}C)<0$. In this situation, $Z>0$ – the observed male wage exceeds that of females - in spite of the relative inferiority of male to female (wage-determining) attributes because the effect of employer bias exceeds that of employee attributes. In this situation, $A>Z$ so that $\delta>1$.

<Table 6.8>

It is worth emphasising the differences between the decomposition method set out above and the standard decomposition via a wage regression due to Blinder (1973) and Oaxaca (1973). The latter decompose the observed difference in average wage between two groups into an "explained" and an "unexplained" part. The "explained" part has to do with differences in attributes between the two groups and the "unexplained" part is often identified as being due to bias. In the above decomposition, too, the observed difference in average wage between two groups is split into a part due to employer bias and another part due to employee attribute differences. However, now, the explained part (that is, derived from the regression equation) has to do with bias and the unexplained part has to do with attribute differences.

Table 6.8 shows the results of quantifying the components of equation (6.6). Of the observed wage gap of ₹2,593 in monthly wages between men and women, considered in their entirety, ₹1941 (or, 75%) could be explained by employer bias while the remainder, ₹652, was due to differences in male female attributes. In terms of the occupations, there was a gap of ₹6,492 in the monthly wages of men and women in P&E occupations: of this, 88% (₹5,712) could be explained by employer bias with the remaining 12% (₹780) being due to differences in male female attributes.[11]

Similarly, in the clerical and in the sales/service occupations, the observed wage gaps between men and women were, respectively, ₹3,779 and ₹3,643. Of these gaps, ₹3,270 and ₹2,178 represented male-female differences in synthetic wages in, respectively, the clerical and in the sales/service occupations thus implying that employer bias accounted for, respectively, 87% and 60% of the male-female wage gaps in these two occupations.

[11] Note that in this case, both B=₹6,769 and C=₹5,989 are positive. This means that both men and women in the P&E occupations had attributes that were superior to the collective of 54,702 persons in the estimation sample but the relative superiority of men was greater so that $B\text{-}C$=₹780>0.

Agricultural and construction workers provided two interesting cases. In both occupations, $B = \hat{w}^M - \tilde{w}^M < 0$ and $C = \hat{w}^F - \tilde{w}^F < 0$ implying that men and women who were agricultural and construction workers had wage-determining attributes that were inferior to that of the collective sample of 54,702 persons. In the case of agriculture, *B=-₹1,234* and *C=-₹1,406* while, for construction, *B=-₹1,766* and *C=-₹1,483*. However, in agriculture *B-C=₹172>0* meaning that, relative to women agricultural workers, male agricultural workers had superior attributes so that *δ=₹1,163/₹1,335=0.87%<1* and *λ=₹172/₹1,335=0.13%<1*: of the overall male-female wage gap of *₹1,335* among agricultural workers, 87% was the result of employer bias and 13% was the result of employee attributes. On the other hand, among construction workers, *B-C=-₹283>0* meaning that, relative to male construction workers, female construction workers had superior attributes so that *δ=₹1,512/₹1,229=1.23>1* and *λ=-₹283/₹1,229=-0.23<0*: of the overall male-female wage gap of *₹1,229* among construction workers, 123% was the result of employer bias and -23% was the result of employee attributes.

In terms of employers, women faced employer bias in the public sector and in private firms and among private employers. Of the ₹7,219 gap in male-female monthly wages in the public sector, ₹4,590 (64%) was due to employer bias; employer bias accounted for 86% of the male-female monthly wages gap of ₹2,239 in jobs with private employers and 71% of the male-female monthly wages gap of ₹2,603 in jobs with private firms. The case of NREG is particularly interesting. In jobs provided by NREG, over 90% of which were casual labour jobs, the male-female wage difference, at ₹209 - resulting from a monthly wage of ₹3,392 for men and ₹3,183 for women - was negligible.

6.6 Caste Disparity and Discrimination in Monthly Wages

In a manner analogous to that described above for gender differences, this section compares monthly wage differences between persons from the FC and the SC and quantifies the relative amounts of the observed difference that was due to employer bias and to differences in employee attributes. As with the study of gender disparities, the first step towards answering this question lay in using IHDS-11 data to estimate a regression equation in which the monthly wages of persons (aged 21-60 years), as the dependent variable, was explained by: (i) gender; (ii) education; (iii) fluency in

English; (iv) location; (v) type of contract; (vi) employer; (vii) occupation; (viii) age band; (ix) state of residence. These independent variables were defined in detail in the previous section.

The innovation about the wage equation estimated in this section was that each of these nine independent variables was interacted with a "caste" variable which took the value 1 if the person was from the SC and the value 0 if the person was from the FC. Consequently, the interacted equation allowed the predicted wage for FC and SC persons to be different with respect to every one of the nine independent variables and, furthermore, it allowed one to test whether these differences were significantly different from zero.

<Table 6.9>

Table 6.9 shows the results from estimating the wage equation, with caste interaction effects, on data for 24,043 persons from the IHDS-11, who were either from the SC or the FC and who were between the ages of 21 and 60 years. The results are presented in terms of the synthetic wages for SC and FC persons for the different variable categories. The synthetic wages for the SC and FC, across all persons, were $\tilde{w}^{FC}$ = ₹5,737 and $\tilde{w}^{SC}$ =₹5,503, respectively. It should be emphasised that these wages were obtained by applying FC and SC coefficients, respectively, to the sample of 24,043 FC and SC persons and that they were different from the average FC and SC wages *observed* in the estimation sample, of, respectively, $\hat{w}^{FC}$ = ₹8,195 and $\hat{w}^{SC}$ =₹4,678.[12] The difference in the FC and SC synthetic wage was ₹234 and dividing this difference by the standard error of 115 yielded a t-value of 2.0 which, in turn, meant that this difference was significantly different from zero. In other words, employer bias ensured that SC persons, on average, were paid a monthly wage which was ₹234 less than that paid to people from the FC.

The results from Table 6.9 showed that, on average, the synthetic male FC monthly wage was significantly *higher* than that of SC men (Table 6.9: ₹6,719 versus ₹5,991) but the synthetic female FC monthly wage was significantly *lower* than of SC women (Table 6.9: ₹3,451 versus ₹4,366). In terms of *education*, it was only for graduates that there was a significant difference between the FC and SC average synthetic monthly wage (Table 6.9: ₹8,386 versus ₹7,002 for, respectively FC and SC

[12] The latter were obtained by computing the average wage after applying, respectively, the FC coefficients to the FC subsample and the SC coefficients to the SC subsample.

graduates); for all other educational levels, the average synthetic monthly wages of FC and SC persons were not significantly different. Similarly, it was only for persons who claimed *fluency in English* that there was a significant difference between the FC and SC average synthetic monthly wage (Table 6.9: ₹10,249 versus ₹8,391 for, respectively the FC and SC); for all other fluency levels, the average synthetic monthly wages of FC and SC persons were not significantly different. In terms of *location*, it was only for persons who lived in non-metro urban areas that there was a significant difference between the FC and SC average synthetic monthly wage (Table 6.9: ₹6,711 versus ₹6,054 for, respectively the FC and SC); for all other locations, the average synthetic monthly wages of FC and SC persons were not significantly different.

In terms of *job contracts*, it was only for persons who had permanent jobs that there was a significant difference between the FC and SC average synthetic monthly wage (Table 6.9: ₹6,588 versus ₹6,036 for, respectively the FC and SC); for all other contract types, the average synthetic monthly wages of FC and SC persons were not significantly different. In terms of *employer*, it was only for persons with jobs in the public sector that there was a significant difference between the FC and SC average synthetic monthly wage (Table 6.9: ₹11,450 versus ₹10,558 for, respectively the FC and SC); for all other employers, the average synthetic monthly wages of FC and SC persons were not significantly different.

In terms of *occupation*, it was only for persons who had P&E jobs or who were agricultural workers that there was a significant difference between the FC and SC average synthetic monthly wage (Table 6.9: ₹7,727 versus ₹6,193 for, respectively FC and SC in P& E jobs and ₹5,697 versus ₹5,256 for, respectively FC and SC agricultural workers); indeed, in the clerical occupations, the average synthetic monthly wage of SC persons was significantly higher than of their FC counterparts (Table 6.9: ₹4,316 versus ₹5,368 for, respectively FC and SC in clerical jobs); for all other occupations, the average synthetic monthly wages of FC and SC persons were not significantly different. Lastly, in terms of *age*, the average synthetic monthly wage of SC persons in the lowest age band was significantly higher than of their FC counterparts (Table 6.9: ₹4,665 versus ₹5,158 for, respectively FC and SC in the 21-30 age band) but the average synthetic monthly wages of SC persons in the two highest age bands were significantly lower than of their FC counterparts (Table

6.9: ₹6,343 versus ₹5,648 for, respectively FC and SC in the 41-50 age band and ₹7,657 versus ₹6,082 for, respectively FC and SC in the 51-60 age band).

Remembering that the average synthetic wage – by measuring the extent to which persons were rewarded or penalised simply because they happened to belong to a particular group (men rewarded for being men, women penalised for being women; persons rewarded for belonging to the FC and penalised for belonging to the SC) - reflects employer bias for or against certain groups, the results of Tables 6.7 and 6.9 show that while employer bias against women was *general* over the labour market in India, employer bias against persons from the SC was *specific* to certain circumstances: graduates, fluent in English, P&E occupations, non-metro urban locations. Outside these circumstances there was no evidence of employer bias against persons from the SC.

Quantifying Caste Discrimination in Wages

Using the methodology detailed in the previous section, the observed difference in wages between FC and SC persons can be decomposed as:

$$\overbrace{\hat{w}^{FC} - \hat{w}^{SC}}^{Z} = \overbrace{(\tilde{w}^{FC} - \tilde{w}^{SC})}^{A} + \left[\overbrace{(\hat{w}^{FC} - \tilde{w}^{FC})}^{B} - \overbrace{(\hat{w}^{SC} - \tilde{w}^{SC})}^{C} \right] \qquad (6.7)$$

<Table 6.10>

Table 6.10 shows the results of quantifying the components of equation (6.7). Of the observed wage gap of ₹3,517 in monthly wages between FC and SC persons, considered in their entirety, only ₹234 (or, less than 7%) could be explained by employer bias while the remainder was due to differences in attributes between the two groups. In terms of occupations, there was a gap of ₹5,085 in the monthly wages of FC and SC persons in P&E occupations: of this, 30% (₹1,534) could be explained by employer bias with the remaining 70% being due to differences in attributes between the two groups.[13] Similarly, in the sales/service occupations, there was a FC-SC gap in monthly wages of ₹1,568 of which only 20% (₹317) could be explained by employer bias, the remainder due to differences in attributes between the two groups.

[13] Note that in this case, both *B=₹8,021* and *C=₹4,470* are positive. This means that both FC and SC persons in the P&E occupations had attributes that were superior to the collective 24,043 persons in the estimation sample but the relative superiority of FC persons was greater so that *B-C=₹3,551>0*.

In the context of employers, there was a gap of ₹5,144 in the monthly wages of FC and SC persons in the public sector only 17% of which (₹891) could be explained by employer bias with the remaining 83% being due to differences in attributes between the two groups.[14] For private employers and for private firms, employer bias explained less than 10% of observed monthly wage differences between their employees from the FC and the SC. The overall conclusion from this analysis is that of the, admittedly, considerable gap in observed monthly earnings between persons from the FC and the SC, only a small portion could be attributed to employer bias with most of the gap being due to differences between persons from the two groups in their employee attributes.

6.7 Conclusions

In a country as suffused with identity politics as India, engendered by a pathological consciousness of group membership, there is one group whose needs and ambitions, when they are not being actively thwarted, are often ignored. This group comprises India's women, all of whom have the misfortune of living in a society infused with patriarchal mores. The results of this chapter offer a vignette of gender disparities with respect to wages.

The wage gap between men and women in India is enormous: on NSS data, women's wages were only 57% that of men while, on IHDS-11 data, this proportion was 54%. This gap might be justified if it could be shown that men deserved higher wages because they had commensurately superior employment-related attributes than women. But that is not so. As the results of this chapter show, 74% of the overall wage gap between men and women was due to *employer bias* against women and only 26% of this gap could be explained by the superior attributes of male workers (Table 6.8). Moreover, this bias was all pervasive and affected all employers, all occupations, all levels of education, and all locations. No woman escaped the pernicious influence of employer bias which led to her being paid less than a man simply because she happened to be a woman. To the many faces of gender inequality catalogued by Sen (2001), add gender-based wage discrimination.

At the same time, the wage gap between persons from the FC and the SC was also large: on NSS data, SC wages were only 65% that of the FC while, on IHDS-11 data, this proportion was 54%.

[14] Note that in this case, both *B=₹5,564* and *C=₹1,312* are positive. This means that both FC and SC persons in the public sector had attributes that were superior to the general sample but the relative superiority of FC persons was greater so that *B-C=₹4,252>0*.

This regrettable fact would be deplorable if it could be shown that a substantial part of this gap was explained by employer bias against persons from the SC. Indeed, the easy assumption that Indian employers display caste-based bias forms the basis of identity politics in India and underpins demands for the special treatment of those belonging to its "backward classes".

As this chapter showed, on the evidence of wage data, there was very little evidence of employer bias influencing the wage gap between persons from the FC and the SC. Of the overall gap of ₹3,517 in monthly wages between FC and SC persons less than 7% could be explained by employer bias. The largest manifestation of such bias was with respect to P&E jobs in which 30% of the overall gap of ₹5,085 in monthly wages between FC and SC persons in such occupations could be explained by employer bias. So, the conclusion with respect to wages is not much different from conclusions with respect to employment outcomes. Employer bias or discrimination, call it what you will, does indeed exist against those in India who are from its "backward classes" but, compared to the role of the inferior attributes of the latter, relative to those from the "forward castes", such bias is of a secondary order of importance in explaining differences in observed labour market outcomes between the "backward" and the "forward" classes.

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Table 6.1 Average Daily Wages (₹) by Social Group, Gender, and Occupation*

	All Occupations	Regular Salaried/ Wage Employees	Casual Labour	Own Account workers
All Persons	276	472	144	143
Scheduled Tribe	187	427	114	128
Scheduled Caste	200	361	143	145
Other Backward Classes (Non-Muslim)	244	400	151	134
Muslims	221	341	151	157
Forward Castes	484	628	149	170
Men	309	506	160	146
Women	177	334	105	105

*Figures pertain to a total of 46,468 persons aged 21-60 years. All the numbers have been grossed up using NSS provided weights.

Source: Own calculations from NSS 68th round (July 2011-June 2012)

Table 6.2: Average Monthly Wages (₹) by Social Group, Gender and Occupation*

	All Occupations	Professional & Executive	Clerical	Sales and Service	Agricultural Labour	Construction	Other non-Farm
All Persons	5,539	15,075	11,969	5,948	3,471	4,144	6,454
Scheduled Tribe	3,814	11,894	13,209	4,913	2,743	3,625	5,125
Scheduled Caste	4,773	12,102	11,551	5,508	3,589	4,132	6,077
Other Backward Classes (Non-Muslim)	5,323	14,141	10,726	5,645	3,498	4,159	6,736
Muslims	5,294	13,388	11,166	5,461	3,460	4,518	5,259
Forward Castes	8,896	17,216	13,166	7,416	4,152	4,461	7,868
Men	6,518	17,227	12,692	7,488	4,089	4,535	7,143
Women	3,531	10,210	8,089	3,206	2,716	3,295	2,995

*Figures pertain to a total of 37,783 persons aged 21-60 years. All the numbers have been grossed up using IHDS-11 provided weights.

Source: Own calculations from IHDS-11.

Table 6.3 Inequality in Average Daily Wages by Social Group, Gender, and Occupation*

	All Occupations		Regular Salaried/ Wage Employees		Casual Labour		Own Account workers	
	Gini	Welfare (₹)	Gini	Welfare (₹)	Gini	Welfare (₹)	Gini	Welfare (₹)
All Persons	0.498	139	0.477	247	0.267	106	0.260	105
Scheduled Tribe	0.458	101	0.458	232	0.228	88	0.253	96
Scheduled Caste	0.406	119	0.460	195	0.251	107	0.253	109
Other Backward Classes (Non-Muslim)	0.450	134	0.444	223	0.280	109	0.230	103
Muslims	0.416	129	0.456	186	0.259	112	0.278	113
Forward Castes	0.528	228	0.475	330	0.281	107	0.301	119
Men	0.481	160	0.454	276	0.257	119	0.261	108
Women	0.487	91	0.559	148	0.218	82	0.183	86

*Welfare is defined as $W = \mu \times (1 - G)$ where μ is mean average weekly wage and G is the Gini value.

Source: Own calculations from NSS 68th round (July 2011-June 2012)

Table 6.4: Inequality in Average Monthly Wages by Social Group, Gender and Occupation*

	All Occupations		Professional & Executive		Clerical		Sales and Service		Agricultural Labour		Construction		Other non-Farm	
	Gini	W (₹)	Gini	W (₹)	Gini	W (₹)	Gini	W (₹)	Gini	W (₹)	Gini	W (₹)	Gini	W (₹)
All Persons	0.424	3,190	0.466	8,047	0.383	7,385	0.490	3,033	0.262	2,559	0.234	3,175	0.391	3,930
Scheduled Tribe	0.333	2,541	0.432	6,748	0.436	7,453	0.476	2,572	0.249	2,059	0.161	3,042	0.344	3,361
Scheduled Caste	0.362	3,044	0.500	6,051	0.405	6,872	0.498	2,766	0.252	2,683	0.233	3,168	0.361	3,882
Other Backward Classes (Non-Muslim)	0.404	3,171	0.472	7,464	0.378	6,664	0.476	2,957	0.258	2,594	0.242	3,154	0.389	4,111
Muslims	0.404	3,154	0.510	6,568	0.406	6,629	0.474	2,872	0.258	2,567	0.224	3,503	0.389	3,213
Forward Castes	0.485	4,586	0.436	9,702	0.358	8,448	0.491	3,776	0.274	3,013	0.270	3,260	0.403	4,704
Men	0.412	3,834	0.429	9,831	0.357	8,158	0.418	4,357	0.259	3,029	0.247	3,416	0.359	4,576
Women	0.357	2,270	0.524	4,857	0.495	4,081	0.535	1,491	0.206	2,155	0.153	2,790	0.418	1,743

*Welfare (W) is defined as $W = \mu \times (1 - G)$ where μ is mean average weekly wage and G is the Gini value.

Source: Own calculations from IHDS-11.

Table 6.5: Contribution of Between Group Inequality to Overall Inequality⁺

	Daily Wage*			Monthly Wage**		
Division of Sample by →	Gender	Social Group	Employment Status⁺⁺	Gender	Social Group	Occupation
Between Group	0.026	0.062	0.173	0.038	0.030	0.110
Within Group	0.389	0.353	0.242	0.269	0.276	0.197
Total Inequality	0.415	0.415	0.415	0.307	0.307	0.307
Between Group as Percentage of Total Inequality	6.3	14.9	41.7	12.4	9.8	35.8

⁺⁺ Regular salaried and wage employment; casual wage employment; own account work.

The decompositions were conducted for 46,462 and 37,778 persons (all between 21 and 60 years of age) for, respectively, the average weekly, and the average monthly, wage.

Inequality is measured by Theil's MLD index defined in equation (6.3) in the text.

** Source: Own calculations from NSS 68th round (July 2011-June 2012)*

*** Source: Own calculations from IHDS-11.*

Table 6.6: The Equally Distributed Daily and Monthly Wage by Social Group and Gender

	Daily Wage (NSS) (₹)			Monthly Wage (IHDS-11) (₹)		
	ε=0	ε=1	ε=2	ε=0	ε=1	ε=2
All Persons	276	182	136	5,539	4,077	3,045
Scheduled Tribe	187	131	106	3,814	3,116	2,425
Scheduled Caste	200	152	122	4,773	3,793	2,931
Other Backward Classes (Non-Muslim)	244	175	137	5,323	4,036	3,130
Muslims	221	166	133	5,294	3,956	2,880
Forward Castes	484	291	187	8,896	5,903	3,934
Men	309	210	159	6,518	4,917	3,870
Women	177	118	94	3,531	2,776	2,119

Source: Own calculations from NSS 68th round (July 2011-June 2012) and IHDS-11

Table 6.7: Differences between Men and Women in their Predicted Monthly Wage (₹)[§]

	Male Wage	Female Wage	Difference	SE	tvalue
All Persons	5864	3923	1941**	56	34.4
Social Group					
Scheduled Tribe	5540	3831	1709**	104	16.5
Scheduled Caste	5740	3963	1776**	74	24.2
OBC NonMuslim	5881	3870	2011**	74	27.0
Muslims	5730	3690	2039**	165	12.4
Forward Castes [R]	6405	4192	2213**	157	14.1
Education					
No education	5555	3565	1989**	82	24.2
Primary or below	5658	3611	2047**	95	21.6
Primary to Secondary	5826	3636	2190**	92	23.8
Higher Secondary	5913	4811	1101**	326	3.4
Graduate or above [R]	7992	6903	1089**	586	1.9
English Competence					
None	5672	3548	2124**	68	31.1
Little	5857	4236	1621**	189	8.6
Fluent [R]	9012	8974	38	660	0.1
Location					
Metro [R]	8865	6612	2254**	405	5.6
Urban nonmetro	6673	4592	2081**	138	15.1
More developed village	5444	3584	1860**	101	18.4
Less developed village	5355	3465	1890**	86	22.0
Contract					
Casual	5781	3887	1893**	66	28.6
< 1 year	4736	3059	1677**	261	6.4
Permanent [R]	6525	4296	2229**	205	10.9
Employer					
Public sector [R]	11997	7407	4590**	399	11.5
Private Employer	5542	3617	1925**	68	28.4
Private Firm	5643	3788	1855**	115	16.1
NREGA	4130	3376	755**	100	7.5
Other	5717	3645	2072**	252	8.2
Occupation					
Professional/Executive [R]	8792	3080	5713**	583	9.8
Clerical	5440	2170	3270**	469	7.0
Sales/Service	4395	2217	2179**	277	7.9
Agricultural	5274	4111	1163**	96	12.2
Construction	6285	4773	1512**	118	12.8
Other nonfarm	5847	3598	2249**	149	15.1
Age Band					
2130 [R]	5350	3594	1755**	73	23.9
3140	5679	3845	1834**	80	22.9
4150	6170	4156	2014**	86	23.5
5160	6750	4344	2406**	128	18.8

[§]Estimated on data for 54,702 persons between the ages of 21 and 60 years. $\bar{R}^2 = 0.48$

** Significant at 5%; * significant at 10%.

Source: Own calculations from IHDS-2011

Table 6.8: Measuring Gender Discrimination in the Monthly Wage for Persons Aged 21-60 years

	$\hat{p}^M - \hat{p}^W$	$\tilde{p}^M - \tilde{p}^W$	$\hat{p}^M - \tilde{p}^M$	$\hat{p}^W - \tilde{p}^W$
All persons	2,593	1,941	246	-406
Employer				
Public Sector Employer	7,219	4,590	3,892	1,263
Private Employer	2,239	1,925	-349	-663
Private Firm	2,603	1,855	582	-166
NREGA	209	755	-738	-192
Occupation				
Professional/Executive	6,492	5,712	6,769	5,989
Clerical	3,779	3,270	5,962	5,453
Sales/Service	3,643	2,178	2,503	1,038
Agricultural Workers	1,335	1,163	-1,234	-1,406
Construction Workers	1,229	1,512	-1,766	-1,483
Other non-farm	3,555	2,249	688	-618

Note: Discrimination is measured vis-à-vis men

Source: Own calculations from IHDS-2011

Table 6.9: Differences between Scheduled Caste (SC) and Forward Caste (FC) Persons in their Predicted Monthly Wage (₹)§

	FC Wage	SC Wage	Difference	SE	t-value
All Persons	5,737	5,503	234**	115	2.0
Gender					
Men	6,719	5,991	728**	127	5.8
Women	3,451	4,366	-915**	196	-4.7
Education					
No education	5,427	5,305	122	173	0.7
Primary or below	5,234	5,275	-41	174	-0.2
Primary to Secondary	5,445	5,380	65	166	0.4
Higher Secondary	6,051	5,463	589	337	1.7
Graduate or above [R]	8,386	7,002	1,384**	511	2.7
English Competence					
None	5,294	5,248	47	123	0.4
Little	5,985	5,546	439	234	1.9
Fluent [R]	10,249	8,391	1,858**	738	2.5
Location					
Metro [R]	9,011	8,244	768	549	1.4
Urban non-metro	6,711	6,054	657**	266	2.5
More developed village	5,330	5,061	269	220	1.2
Less developed village	4,871	4,994	-123	202	-0.6
Contract					
Casual	5,577	5,432	145	140	1.0
< 1 year	4,683	4,353	330	387	0.9
Permanent [R]	6,588	6,036	551	307	1.8
Employer					
Public sector [R]	11,450	10,558	891**	459	1.9
Private Employer	5,201	5,068	134	149	0.9
Private Firm	5,508	5,220	288	226	1.3
NREGA	4,184	4,036	148	235	0.6
Other	4,752	5,278	-526	547	-1.0
Occupation					
Professional/Executive [R]	7,727	6,193	1,534**	614	2.5
Clerical	4,316	5,368	-1,052**	468	-2.3
Sales/Service	3,989	3,673	317	364	0.9
Agricultural	5,697	5,256	441**	188	2.3
Construction	6,129	6,084	46	169	0.3
Other non-farm	5,576	5,496	80	236	0.3
Age Band					
21-30 [R]	4,665	5,158	-493**	178	-2.8
31-40	5,311	5,427	-116	222	-0.5
41-50	6,343	5,648	695 **	175	4.0
51-60	7,657	6,082	1,574**	271	5.8

§Estimated on data for 24,043 persons between the ages of 21 and 60 years. $\bar{R}^2 = 0.49$

** Significant at 5%; * significant at 10%.

Source: Own calculations from IHDS-2011

Table 6.10: Measuring Caste Discrimination in the Monthly Wages: SC and FC persons Aged 21-60 Years

	$\hat{p}^{FC} - \hat{p}^{SC}$	$\tilde{p}^{FC} - \tilde{p}^{SC}$	$\hat{p}^{FC} - \tilde{p}^{FC}$	$\hat{p}^{SC} - \tilde{p}^{SC}$
All persons	3,517	234	2,458	-825
Employer				
Public Sector Employer	5,144	891	5,564	1,312
Private Employer	1,735	134	822	-780
Private Firm	3,170	288	2,443	-439
NREGA	-51	148	-945	-746
Occupation				
Professional/Executive	5,085	1,534	8,021	4,470
Clerical	1,642	-1,052	7,459	4,765
Sales/Service	1,568	317	2,966	1,714
Agricultural Workers	473	441	-1,649	-1,681
Construction Workers	249	46	-1,697	-1,901
Other non-farm	1,597	80	1,621	103

Note: Discrimination is measured vis-à-vis persons from the Forward Castes

Source: Own calculations from IHDS-2011

Figure 6.1
The Equally Distributed Equivalent Wage

Source: Own Diagram

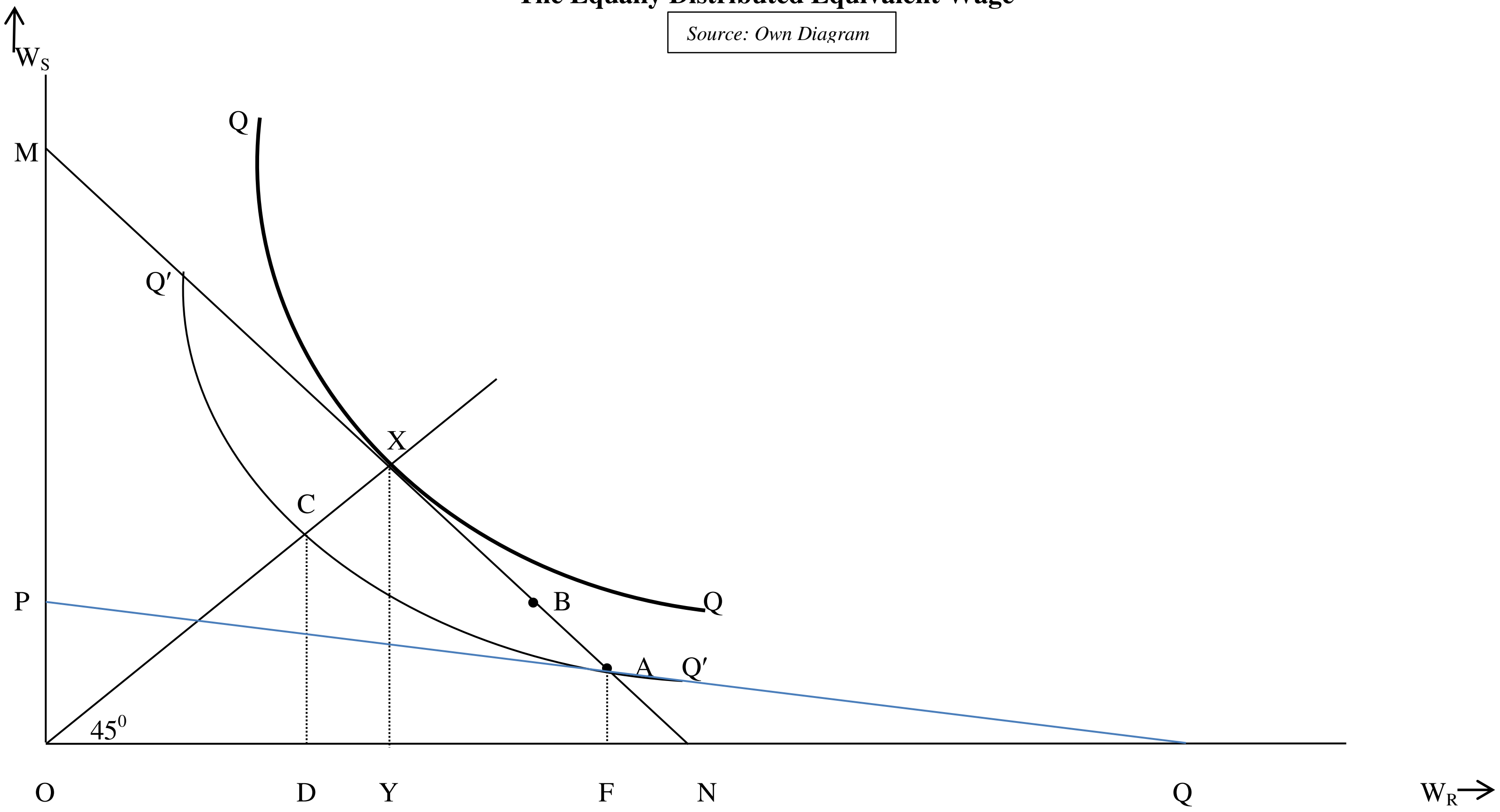

Figure 2: The Curvature of the Indifference Curves and the value of ε

Source: Own Diagram