

STRUCTURE OF GROWTH AND DISCRIMINATION OF WAGES IN THE RURAL LABOUR MARKET OF INDIA

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ABSTRACT

This study intends to explore whether the wage gap between caste groups still persists in the rural labour market of India. Given the implication of earning discrimination in the labour market on other forms of deprivation, the present study analyses the NSSO employment 55th and 68th round data, to examine the wage gap between marginalized groups and other groups among regular and casual workers in rural India by adopting the Blinder-Oaxaca decomposition method. It is observed that on an average, the Non-ST/SC workers earn higher than their ST/SC counterparts both among casual and regular workers categories in rural India. Further, the wage growth is negative for regular workers among the marginalized groups in most of the states in Rural India.

Introduction

Indian economy has witnessed a dramatic shift in terms of growth, production and consumption structure in the post 1990s. A common striking feature observed during the period of post-liberalization is the growth accompanied with a moderation in the level of wage/income inequality.¹ On the contrary, during the recent periods the country has witnessed concentration of wealth in fewer hands as implied by accentuating inequalities and disparity in the level of living (Abraham, 2007). Growth without job creation (jobless growth) and rising share of the category of self-employed owing to the low wage expectations signals growing distress

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in wage employment in terms of growth and distribution (Abraham, 2007). In this perspective, there arises a need for inspection of the wage differentials among caste groups which often is an axis of occupational stratification. Also, the exclusionary social structure in India continues to place obstacles for several caste groups in access to key opportunities (Das and Dutta, 2007).

The wages and earning differentials in the labour market basically lead to impoverishment in a multidimensional and interactional fashion (Majumder, 2007). This wage/income differentials can occur through a number of dimensions such as caste, gender, and age which tends to reduce the opportunity of such groups to access basic social services and limits their participation in the labour market. If we look at the wage growth among social groups, it is much less, because though there are many ways in which labour market discrimination exists, the most important one is of course the age-old and conventionally practiced entry and exit barriers based on ascribed status particularly into a labour market in the country (Thorat and Newman, 2007, Abraham, 2012). There are instances of rising wage inequality among marginalized groups over a period of time, even wage gap is widening among them (Madheswaran and Attewell 2007; Sengupta and Das 2014, Abraham, 2012). In the current discourse of widening inequality and lack of inclusiveness,² the observed structure of wage growth offers a dismal picture.

Given this context, the primary objective of the present study is to examine the structure of wage growth and wage discrimination along with wage inequality among the Indian states in rural area,³ with specifically focusing on marginalized groups using 55th and 68th employment and unemployment rounds of NSSO. In addition, an attempt is also made to offer plausible explanations for the observed trend in wage growth.

Wage Disparity among Marginalised Groups

The inspection of wage discrimination across marginalized groups becomes pertinent in understanding the pattern of lower wage growth and disparity in the inclusive growth story of India. Various theoretical and empirical (Arrow, 1973; Becker, 1971) studies have examined this phenomenon. According to studies of Dutta and Das (2007), caste in India is the primary source of stratification and responsible for a host of outcomes even after controlling for other factors. Interestingly, Das and Dutta (2007) pointed out that, "One distinguishing feature of caste-based discrimination is that, unlike race or gender, it is not necessarily practiced by one dominant group over a well-defined subordinate group."⁴ The notion of discrimination

in the labour market includes restrictions on the entry of marginalized groups to the market through selective inclusion with unequal treatment. By using primary and secondary data sources, most of the studies in India on social group discrimination examined the existence and persistence of wage and earning distribution and the inequalities among the marginalized groups in India. Such discrimination has been observed in selected studies (Madheswaran and Attewell, 2007; Das and Dutta, 2007; Thorat and Newman, 2007). While analyzing this discrimination, study by Abraham (2012) observed that the discrimination in labour market can occur in three ways such as, barrier to entry in a particular labour market, restrictive occupational mobility and the way of discriminating on return to work in the same occupation. Earning or wage differentials although are seen across caste/class religion etc., they are more owing to endowments rather than these identities per say (Madheswaran and Attewell, 2007). By using Blinder-Oaxaca decomposition methodology, this study showed the earning/wage differential (Regular wage earners) do exists and a large share comes from the human capital endowments while 15 per cent is also due to discrimination in the market places. Some of the studies (Unni, 2001; Banerjee and Knight, 1985) show that caste or tribal affiliation of an individual determines the wages received in India. Even some evidence of discrimination found in hiring process in the labour market of India, The study of Thorat and Attewell (2007) found that the low caste and Muslim applicants find it harder to pass through hiring screens set up by employers in the private sector enterprises in India. Through the application of Blinder-Oaxaca decomposition analysis, Das and Dutta (2007) also clearly indicated that caste still acts as a determining factor in how individuals are remunerated in the wage labour market. They also argued about the evidence of both glass ceiling and glass walls, indicating vertical and horizontal segregation of workers. The economic implication of caste system relating to caste based inequalities in terms of wages was found in the study of Unni (2001).

The evidence on low mobility in the Indian labour market finds significant effects of caste based occupations (Munshi and Rosenzweig, 2005). This study also showed differential wages in terms of occupational pattern among the social groups as compared to others. Despite various steps taken by the government, the educational level of the marginalised groups lags behind that of general population, due to which majority of the SC/ST population is found in less skilled and low paying jobs (Madheswaran and Attewell, 2007). The slow or low progress in wages of this marginalized group is due to lack of basic endowment effect in

terms of education and occupation which is unable to pass properly from one generation to other. One common contention regarding the recent experience of growth relates to its bearing on individual welfare and whether the benefits of growth are shared equally among all. In this effort, the magnitude of changing wages across social groups (backward classes) alongside its response to changing capability structure in terms of education and skills is examined.

Given the dual structure of the market of Indian Economy, the regular wage earners are considered to be more secure as compared to the casual workers, because as per the definition of NSSO, the casual workers never get wages at par with the regular workers. The casual labourers are considered to be the subset of informal labour market, are generally engaged in economic activity with low wages and unstable employment structure (Dutta, 2005; Das and Dutta, 2007). So, given this structure of differential wage earners, it is essential to understand how the pattern of wage growth is changing over the period of time among various social groups and what explains this observed trend.

In the present analysis, the NSSO wage data sets were used to show the level of wage growth in India as NSSO data are more reliable because of their proper way of estimating wage data sets in a well-disaggregated manner (Srivastava and Singh, 2005; Abraham, 2012). The NSSO data have been widely used due to their scientific estimation and data collection in proper manner. The wage rate which is given by NSSO is not only most statistically reliable as compared to other data sets but also they allow for higher level of disaggregation analysis (Himanshu, 2005).

In the present study the over-arching question is, verifying the pattern of wage growth and inequality in Indian context. The specific inquiries are in terms of the following questions. What is the pattern of wage discrimination and wage inequality in India and how it differs among different social and economic groups? What endowment factors explain this observed trend? In this case, the main objectives of the present study are, to analyze the pattern of wage growth among wage earners (both casual and regular) in marginalized groups in India and to analyze the level of inequality and disparity among marginalized groups and understand what explains this observed trend.

Data and Methodology

For the empirical analysis the study will make use of nationally representative large scale employment surveys (Unit level data on employment and unemployment) undertaken by National Sample Survey Organization.⁵ In this present exercise NSSO data sets were used for two rounds, basically 55th and 68th rounds on employment and unemployment survey. The data were taken only for casual⁶ (Status code 41 and 51 for 55th round and 41, 42 and 51 for 68th round) and regular⁷ wage (Status code 31) earners on the basis of current weekly status criteria in the age group of 15 to 65. The regional level consisting of 15 major states in India comprising Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal are taken for the purpose of the present analysis. The newly added states such as Uttarakhand, Jharkhand and Chhattisgarh were added to their parent states Uttar Pradesh, Bihar and Madhya Pradesh respectively in the 68th round survey of NSSO.

The wage rate is calculated on the basis of the average wage per day. For this, the total reported wages received in a week by each wage earner was divided by the total number of days of work in a week. The given wage rates are further deflated by using price index for agricultural labourers. The state level conversion table provided by Central Statistical Organization CSO for Consumer Price Index for Agricultural labour (CPI-AL in 2001 base year price) has been used in the present analysis to calculate the real wage rates for rural areas. Unit level data for the regular as well as casual workers who have reported zero wages or not reported wages in the two date sets that is the 55th and 68th Employment and Unemployment Round respective unit level data were excluded for the analysis. The distribution of the wage data in the series is such that extreme values exist in both ends, so, at the tails of the distribution we trimmed at 0.1 per cent at both ends. This is an ad hoc measure and the cut-off for such trimming is left to the researchers' choice as mentioned by the study of Abraham (2007). This excludes extreme values from the analysis.⁸ For the 55th employment round we only took the information on Visit one only because wage rates for social groups is not available in information on Visit two. The occupational classification and industrial classification is based on NCO-2004 and NIC-2004. In this present analysis the census adjusted weights were used while estimating the inequality components.⁹

For analytical purpose, the percentages, ratios and share of distribution in wage rates were used. For examining the inequality in wages among

Indian states as well as social groups, the overall inequality was decomposed into within and between inequality components. To show the trends and patterns of wage inequality, the present study used percentile ratio, Gini coefficient and General entropy methodology. The basic endowment effect on wage growth will be assessed based on education, occupation, and Industry and group identity.

$$Gini = \frac{1}{2n^2\bar{w}} \sum_{i=1}^n \sum_{j=1}^n |w_i - w_j|$$

Gini Coefficient

The Gini coefficient varies between 0 and 1 and it is defined as follows, Where, n is the number of individuals in the sample, w is the arithmetic mean wage, w_i is the income of individual i , and w_j is the income of individual j (Dutta, 2005).

$$GE(\alpha) = \frac{1}{(\alpha^2 - \alpha)} \left[\frac{1}{n} \sum_{i=1}^n \left(\frac{w_i}{\bar{w}} \right)^\alpha - 1 \right]$$

General Entropy of Measures

The General entropy of measures has the following formula,

Where, α is a parameter that represents the weight given to distances between wages at different parts of the wage distribution, and can take any real value.¹⁰

Blinder-Oaxaca Decomposition Methodology

Another method which is used in this study to understand about the variation in terms of wages among different social groups is Blinder and Oaxaca decomposition method. The Blinder–Oaxaca decomposition methodology is mostly used in the labour market outcomes by groups (sex, race, caste etc.). It divides the wage differential between two groups into a part that is “explained” by group differences in productivity characteristics, such as education or work experience, and a residual part that is “unexplained” that cannot be accounted for by such differences in wage determinants. This “unexplained” part is often used as a measure for discrimination, but it also subsumes the effects of group differences in unobserved predictors” (Jann, 2008).¹¹

Caste and Labour Market Discrimination in Rural India

Before explaining the pattern of wage discrimination or wage inequality, it is pertinent to understand the levels and patterns of employment among major social groups in rural India. For understanding the wage differential and wage gap among various social groups, it is very important to understand the background characteristics of the concerned population in the rural labour market. To begin with, the employment and population share of the social groups may be analyzed.

Population and Employment Share of Social Groups

This section basically explores empirically the implication of caste for the labour market through the descriptive statistics. Here, a brief overview of the disparities in employment opportunities, education, and occupation and agricultural and non-agricultural sector employment for the age group of 15 to 65 for rural India has been presented. First, the population share and employment share as per UPSS status criteria has been analysed and the distribution of different status criterion such as self employed, regular and casual jobs, Unemployed and Out of labour force for rural India has been presented. If we look at the employment and population share, we can find that for the OBC and Other categories, with the changes in population share the employment share also changed correspondingly, but for ST and SC groups the change is almost stagnant or less (Table 1). At the two points of time that is considered for the analysis, the population share of ST groups has increased from 10.8 to 11 per cent and corresponding to this, the employment share is almost stagnant at 12.9 per cent. The population share and employment share of the SC group is even declining. In the recent periods there is a growing percentage share of OBC population and corresponding increase in their share in employment as compared to other groups.

The hierarchical nature of the caste system combined with low endowments features in terms of human and physical capital translates into lower level of employment status for the SCs and STs to engage in the casual job. The nature of caste system combined with low level of human capital leads to self-employed and casual kinds of jobs for majority of the informal employment. The percentage share of regular employment is very minimal for all the social groups during 2011-12 (for OBC it is 4.8 per cent and for Others it is 6.9 per cent), but for SCs (3.4) and STs (4.7) the percentage share is very less. Most of them are either self-employed or casually employed where the wages received is very minimal. As the total earnings depend upon rate of wages and job availability, those

with casual kind of jobs basically earn less due to unavailability of jobs for major part of the year. The casual wage workers and self employed workers can be categorized as the subset of informal labour market (Das and Dutta, 2007) with mean low earning, unstable job contract and with no social security benefits. This simply reflects casualisation of work for ST and SC categories. The nature of engagement in the labour market with low level of employment translates into lower level of occupation for the marginalized groups. The main reason behind the less number of participation among Others category is may be due to income effect, education effect as most of the persons in the Others category are included in the education or it is a sign of distress employment pattern as mentioned by various scholars (Himanshu, 2011; Chadha 2003; Abraham, 2009) or due to de-feminisation as per the recent studies (Abraham, 2013; Kannan and Ravindran 2012; Hirway, 2012), which is beyond the scope of this study. Although in the recent period their share is increasing but it is still minimal.

Table 1: Population and Employment Share in the Rural Labour Market

			Percentage Distribution of Employment as per different UPSS Status					
	Population Share	Employment Share	Self-Employed	Regular	Casual	Unemployed	OLF	Total
55th Round								
ST	10.8	12.9	40.6	3.6	35	0.6	20.3	100
SC	21	22.0	24.6	4.2	40.9	1	29.3	100
OBC	36.9	37.2	40	4.3	22.9	0.9	32	100
Others	31.3	27.8	40.1	5.9	13.2	1.4	39.4	100
Total	100	100	36.8	4.7	25	1.1	32.5	100
68th Round								
ST	11	12.9	39.5	3.4	26.9	0.9	29.3	100
SC	20.3	21.0	23.4	4.7	33.1	1	37.8	100
OBC	44.7	44.1	34.4	4.8	19.3	1	40.5	100
Others	24	22.1	35.9	6.9	11.6	1.1	44.5	100
Total	100	100	33.1	5.2	21.1	1	39.7	100

Source: calculated from the NSSO unit level data 55th round and 68th round on employment and unemployment

Educational Characteristics of Social Groups – Low Endowments

In the Indian labour market, caste plays a very important role in the wage differentials. This can be clearly understood if we look at the human capital measured through educational attainment among various social groups. The caste-based stratification basically translates into low human capital and material resources belonging to the lower strata of the population. It is very surprising to note that out of the total percentage share, a major chunk among the ST and SC are illiterate (Table 2). In 1999-2000 the percentage share is around 62 per cent for STs and 60 per cent for SCs; in the recent periods there is a mere decline in the level of illiteracy among social groups. The percentage of graduation and above is only 1 to 2 per cent for the SCs and STs, whereas, for Others category, it is more (increased from 4 per cent to 8 per cent). In terms of higher secondary level, the share of SCs and STs is still less as compared to other groups over the last one decade. This lower participation in the education results into their participation in the labour market. Further, there are concerns over quality of schooling and learning outcomes of children from different castes.

Table 2: Educational Attainment by Social Groups in Rural India

	55th Round					68th round				
	ST	SC	OBC	Others	Total	ST	SC	OBC	Others	Total
Illiterate	62.9	60.3	51.2	35.7	49.5	44.0	41.5	35.2	23.2	34.5
Up to Primary	10.4	9.8	10.6	11.2	10.6	12.7	10.8	10.2	10.0	10.6
Primary	9.0	9.9	11.5	13.0	11.3	13.1	14.0	11.9	13.0	12.7
Middle	9.9	11.2	14.3	18.1	14.4	15.7	16.4	17.8	18.5	17.5
Secondary	4.6	5.2	7.7	12.3	8.3	7.9	9.7	13.5	16.6	12.9
Higher Secondary	2.4	2.2	3.2	5.7	3.7	4.4	5.1	7.0	10.5	7.2
Graduation and above	0.9	1.3	1.6	4.0	2.2	2.2	2.6	4.4	8.3	4.7
Total	100	100	100	100	100	100	100	100	100	100

Source: calculated from the NSSO unit level data 55th round and 68th round on employment and unemployment.

Occupational and Industrial Activities of the Social Groups

The major factor behind the earning disparities among social groups in India has been the employment structure itself. Lower level of education leads to lower level of job opportunity which in turn leads to earning

disparities for these social groups. The occupational distribution is highly skewed with a less percentage share of workers among SCs and STs engaged in white collar jobs such as Professional, Technical and Administrative. It can be found that out of the different occupational characterization, the top administrative jobs are occupied by the Others and OBC category. Overwhelming majority of the workers among SCs and STs are engaged either in farm labour, or other occupations such as repair and transportation services. This clearly describes the glass wall and glass ceiling effect discussed by Das and Dutta (2007) and also reveals the vertical and horizontal segregation of workers. As the Indian labour market is occupationally segregated, lower castes are restricted to menial, low paying and often socially stigmatized occupations while upper caste groups are concentrated in preferred occupations. Quite naturally, the wages in these kinds of occupations is less than the overall wage earnings of these groups as compared to Other groups. In the highly paid occupations such as legislators, professionals the major percentage share is for Other higher castes only (Table 3). The percentage share of SCs and STs in these kinds of jobs are very minimal.

Trends and Patterns of Wage Growth, Wage Disparity and Wage Inequality in Rural India

Wage rate is one of the important variables for the improvisation of living condition of labour. This is conceived as a bargaining power of the labour in the wage market. As per the objective of this present study, it is very essential to understand how the pattern has changed over the point of time. Next, to understand how the wage growth has changed with the changes in employment share, first, distribution of per day wages for different social groups for regular workers and casual workers has shown, then the CAGR for each social group was calculated. The trend in wage growth has been explained by using per day wage criteria. The real wage rate for regular and casual workers for two points of time, namely 55th and 68th round, was calculated.

Here also the non-parametric Kernel density function was presented to show the changes in wage distribution over two time points. The graph clearly depicts the right shift of the density function, which indicates changes in the wage distribution of the regular as well as casual workers in both time points.

Figure 1, Figure 2 and Figure 3 respectively show the non-parametric kernel probability density estimates of regular and casual workers for rural area in 1999-00 and 2011-12 for all Rural India and major social

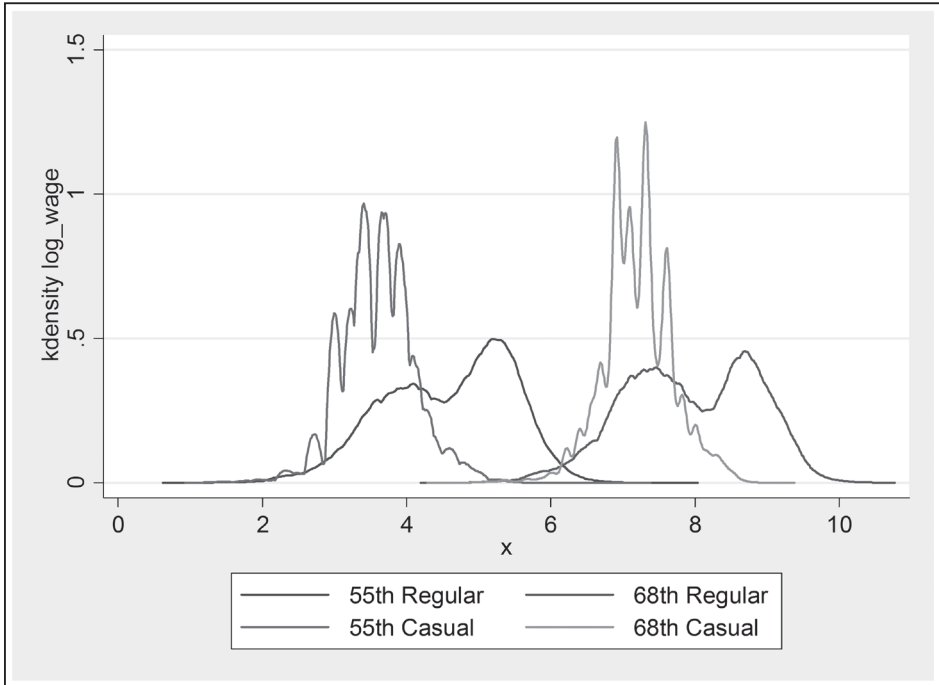
Table 3: Percentage Distribution of Workers as per Industrial and Occupational Affiliation across Social Groups in Rural India (Age 15-65 years)

	55th Round					68th round				
	ST	SC	OBC	Others	Total	ST	SC	OBC	Others	Total
	NCO-2004-Occupational Distribution									
Legislator and Senior	0.6	0.8	1.6	2.2	1.5	2.2	2.1	3.8	5.1	3.5
Professionals	0.3	0.5	0.7	1.7	0.9	0.8	1.2	1.4	3.2	1.7
Technicians and others	1.2	1.1	1.2	2.8	1.6	1.4	1.3	1.6	3.3	1.9
Clerks	0.3	0.5	0.6	1.2	0.7	0.3	0.6	0.7	1.5	0.8
Service Related Worker	2.0	3.0	5.6	6.4	4.8	2.3	3.3	5.1	6.8	4.8
Skilled Agriculture	47.0	25.9	46.0	53.3	43.7	49.3	25.7	43.4	46.1	41.0
Craft and Related	4.2	8.9	9.6	7.2	8.1	5.9	13.2	11.0	11.0	10.8
Plant and Machinery	0.9	2.0	2.2	2.6	2.1	1.2	3.0	3.4	3.7	3.1
Elementary Occupation	42.8	56.4	31.6	20.3	35.4	36.7	49.6	29.6	19.2	32.4
Total	100	100	100	100	100	100	100	100	100	100
	NIC-2004 Industrial Distribution									
Agriculture & Fishing	85.4	77.1	74.7	72.7	76.0	75.9	59.1	64.4	59.7	63.7
Manufacturing & Min.	4.7	7.7	9.3	7.7	7.9	4.7	9.6	9.4	11.4	9.3
Construction	4.1	4.8	3.1	2.4	3.4	11.8	17.9	10.1	7.1	11.3
Trade, Hotel & Restu.	1.6	3.4	5.7	7.5	5.2	2.9	4.8	7.4	10.0	6.9
Transport, Storage & Ot.	1.1	2.4	2.0	2.7	2.2	1.3	3.5	3.2	3.3	3.0
Finance & Real Estate	0.1	0.2	0.3	0.7	0.4	0.1	0.7	0.8	1.5	0.8
Public Ad. & Others	3.1	4.4	4.9	6.5	5.0	3.2	4.5	4.7	7.1	5.0
Total	100	100	100	100	100	100	100	100	100	100

Source: calculated from the NSSO unit level data 55th round and 68th round on employment and unemployment

groups. The rightward shift of density curves depicts the changes in wage distribution of different workers. The central tendency of regular wage earners is more than that of the casual workers in both the periods. Annual distribution of the regular earners is wider than that of the casual workers under study.

Figure 1: Wage Distribution of Regular and Casual Workers



Source: calculated from the NSSO unit level data 55th round and 68th round on employment and unemployment

Figure 2: Wage Distribution of Regular Workers

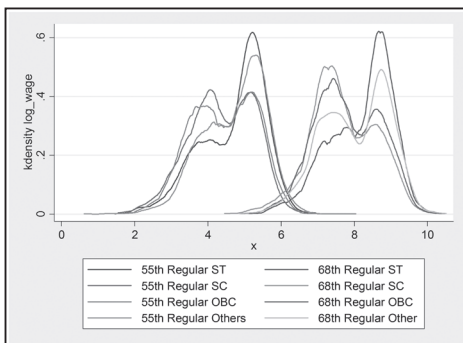
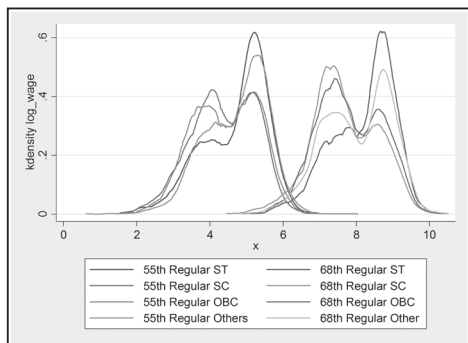


Figure 3: Wage Distribution of Casual Workers



Source: calculated from the NSSO unit level data 55th round and 68th round on employment and unemployment

As per the all India distribution of wages, the social groups are also representing the same trend over the two-time points (Das and Dutta, 2007). For the regular workers it is showing some sort of change in the kernel density plots among social groups. Since the casual workers are homogeneous pools of low skilled workers, the kernel density plots do not reflect significant difference between workers of different social groups. The wage distribution of both regular and casual labour has changed significantly over the last one decade. This observation finds support in the findings of Das and Dutta's study (2007).

Trends in Real Wage Rates among Social Groups

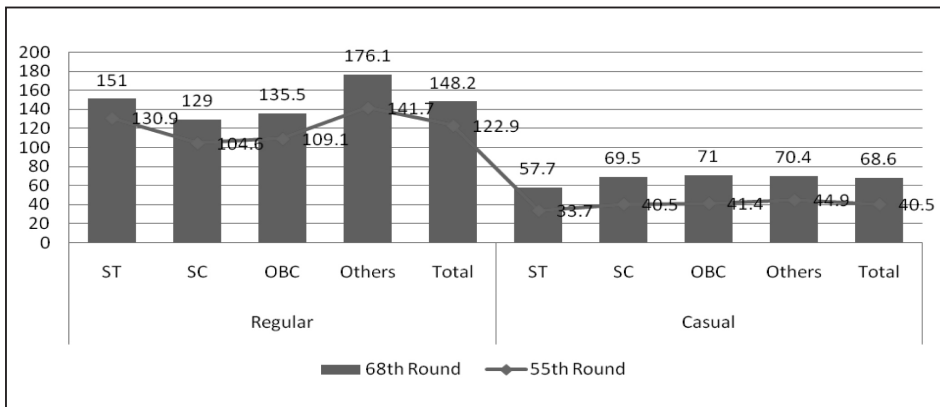
After explaining the wage distribution of the both sets of workers, in this section an attempt has been made to study how the wage rate of casual and regular workers is changing in social groups. While most of the studies focus only on a particular wage earner groups or mentioned about them while talking about wage growth among social groups, the present study tries to focus on the differential wage growth pattern of two sets of workers among all major social groups.

The real wage rate among regular workers has increased from Rs.122 to Rs 148 and for casual workers it has increased from Rs. 40 to Rs.68 at all India level (Figure 4). In the recent periods (2011-12) the real wage rate is higher for the other categories (Rs. 176.1) for regular workers and for the OBCs (Rs. 71) for casual workers. The state-specific picture is somewhat different than that of all India level among social groups. The growth rate of casual workers is higher than that of regular workers because of changing nature of work structure in the rural area in the recent arena (Table 4). But surprisingly in some states there is a decline in the level of wage growth for regular wage earners among STs and SCs. The most striking feature regarding regional pattern of real wage growth rate is that the negative growth rate during 1999-00 to 2011-12 among regular workers is almost a pan-Indian phenomenon. In the case of casual wage earners, almost all the states showed a rise in the level of wage growth. The low or negative growth rate of wages is a serious concern. The states are classified as per acceleration and deceleration in growth rate.

If we look at the growth rates we can find different patterns across regions in rural India. An estimated change in the growth rate of regular workers and casual workers among the broad social groups is presented in Table 4. Here we took data of two periods to provide a cursory view of the wage growth. The most striking pattern in the regional distribution of real wage growth is the negative average per day in real wage growth

rate for the regular employees in few states. For the regular wage earners a negative growth rate among ST groups is observed in the states of Bihar, Gujarat, Karnataka, Kerala, Maharashtra and Tamil Nadu, while it is high among the same group in Assam, Andhra Pradesh and Haryana states. So, if we look at the wage growth among SC and ST communities we can observe that most of the developed states such as Gujarat, Karnataka, Kerala, Maharashtra and Tamil Nadu shows negative growth rate for the ST communities, while Gujarat, Odisha, Punjab and Haryana show negative growth in wage rates among SC communities. OBCs and other category in Rajasthan, Tamil Nadu and Karnataka are showing a negative growth for regular wage earners. For casual workers in all major states there is an increase in wage growth in two time points for all the social groups with varied growth.

Figure 4: Per Day Average Real Wage Rates in Rural India across Social Groups



Source: Same as Table 1

This negative growth rate in wages is a matter of concern even for the developed states among the Social groups. Hence, another technique towards wage convergence to the ratio of daily wages to other categories is calculated as per the analysis of Abraham (2012).

From Figure 5 it can be clearly understood that the ST wages (as indicated in the bar graph) was 92 per cent which is lower than that of Others category during 55th round and in 68th round it has declined to 86 per cent (curve graph), while for casual workers the trend shows some improvement over the period of time (0.5 in 55th round to 0.82 in 68th round). This is also true for the casual workers. While the OBC groups show slight decline in wages among the regular workers, for casual

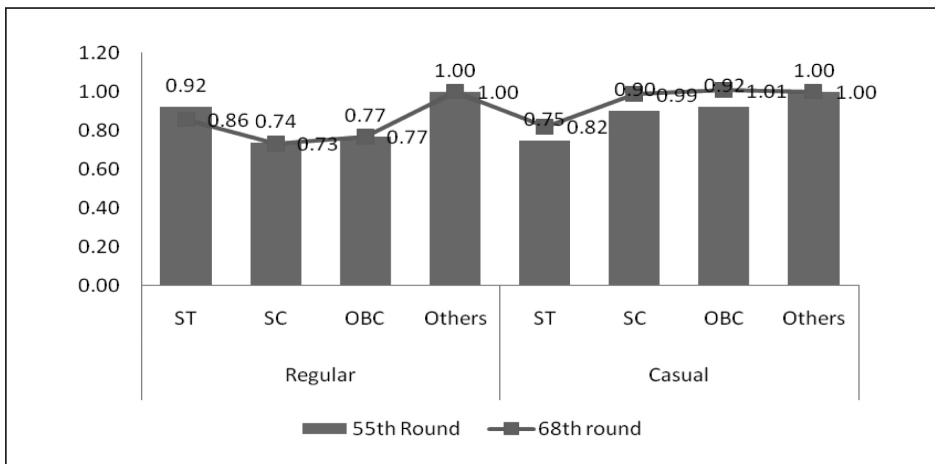
Table 4: CAGR of Average Real Wages among Social Groups in 55th and 68th Round in Rural India

	Regular						Casual					
	ST	SC	OBC	Others	Total		ST	SC	OBC	Others	Total	
Andhra Pradesh	5.4	5.3	2.3	3.1	3.2		4.4	5.3	5.9	5.7	5.5	
Assam	4.6	9.3	3.6	7.2	5.4		3.7	4.7	3.6	4.2	3.9	
Bihar	-8.1	5.9	3.5	4.4	4.2		6.0	5.4	5.5	7.2	5.6	
Gujarat	-1.8	-6.8	0.0	1.0	-0.9		2.2	3.0	2.6	2.5	2.5	
Haryana	7.3	-1.0	2.1	0.5	0.5		4.0	2.4	3.8	3.1	2.9	
Karnataka	-4.5	1.8	0.2	-0.7	-0.7		5.8	5.3	4.3	5.8	5.1	
Kerala	-2.1	2.9	2.9	2.5	2.3		3.8	4.6	4.4	5.1	4.6	
Madhya Pradesh	1.4	3.5	0.0	0.5	0.9		5.0	6.1	4.8	4.2	5.2	
Maharashtra	-3.4	0.4	1.9	0.9	0.8		3.4	4.1	4.0	2.6	3.5	
Odisha	3.9	-0.8	0.3	1.3	0.9		7.3	7.7	7.8	6.4	7.5	
Punjab	0	-1.4	1.4	1.8	0.5			3.1	2.4	1.7	2.9	
Rajasthan	2.6	3.6	-0.2	2.3	1.5		2.3	2.5	2.3	2.8	2.5	
Tamil Nadu	-2.4	3.6	3.0	-1.6	2.6		5.1	5.1	4.5	4.1	4.8	
Uttar Pradesh	3.3	1.2	1.9	2.7	1.7		2.3	4.6	4.8	3.5	4.6	
West Bengal	5.5	2.9	1.8	0.4	1.5		4.2	3.4	4.2	3.1	3.4	
India	1.2	1.8	1.8	1.8	1.6		4.6	4.6	4.6	3.8	4.5	

Source: calculated from the NSSO unit level data 55th round and 68th round on employment and unemployment

workers it shows an improvement. While explaining the pattern of wage shift, though some studies talked about the educational differential, others felt that other factors such as geographical location, spatial segregation also play an important role in this regard. This results deviate from the findings of the study of Abraham (2007) where more of convergence in terms of wage share shows for ST population. Next, if we look at the wage share of the ST/SC population to total population, we can find that the share shows a declining trend among regular workers, whereas it shows some increasing trend among the casual workers. This trend can be observed in most of the states in rural India. After explaining this trend in wage growth, in the following section the study tries to explain the pattern of wage inequality among these social groups.

Figure 5: Ratio of Daily Wages of Merginalised Groups of Others



Source: Same as Table 1

Trends in Wage Inequality among Social Groups

After explaining this observed growth among Indian states next we will examine what is the pattern of wage inequality among different states in rural India for both regular and casual workers. At all India level the changes in inequality measured through Gini shows a rising inequality for regular workers and decline for casual workers (Table 5).

Here, first the wage inequality in terms of Gini for the two time points, both for regular and casual workers, was calculated and then we subtracted the two years' figures¹² to understand the wage inequality trend among social groups. The study found that except in few states such as Bihar,

Table 5: Differences in Gini Indices in both the Rounds

	Regular					Casual						
	ST	SC	OBC	Others	ST	SC	OBC	Others	ST	SC	OBC	Others
Andhra Pradesh	-0.072	-0.075	-0.136	-0.024	-0.035	-0.015	-0.022	-0.022	-0.035	-0.015	-0.022	-0.022
Assam	0.014	-0.045	0.047	0.054	-0.061	-0.017	0.066	0.002	-0.061	-0.017	0.066	0.002
Bihar	-0.185	-0.073	0.074	0.073	0.026	-0.020	-0.040	0.002	0.026	-0.020	-0.040	0.002
Gujarat	-0.031	-0.146	0.033	0.074	0.033	-0.011	0.017	-0.061	0.033	-0.011	0.017	-0.061
Haryana	0.356	0.039	0.070	-0.050	0.027	0.029	-0.035	0.081	0.027	0.029	-0.035	0.081
Karnataka	0.059	-0.153	-0.051	-0.019	-0.049	-0.034	-0.040	0.019	-0.049	-0.034	-0.040	0.019
Kerala	0.131	0.186	0.000	0.015	0.024	0.020	-0.015	-0.007	0.024	0.020	-0.015	-0.007
Madhya Pradesh	0.058	-0.134	0.050	0.061	-0.029	-0.042	-0.056	-0.038	-0.029	-0.042	-0.056	-0.038
Maharashtra	0.247	0.120	0.058	0.101	-0.005	-0.005	-0.008	-0.070	-0.005	-0.005	-0.008	-0.070
Odisha	-0.138	0.021	0.080	0.018	-0.002	-0.017	-0.027	-0.075	-0.002	-0.017	-0.027	-0.075
Punjab	0.338	0.032	0.099	0.078	0.098	-0.040	-0.021	-0.044	0.098	-0.040	-0.021	-0.044
Rajasthan	0.077	0.089	-0.064	0.045	-0.033	-0.021	-0.025	-0.021	-0.033	-0.021	-0.025	-0.021
Tamil Nadu	-0.032	-0.087	-0.057	-0.068	-0.057	0.014	0.009	-0.005	-0.057	0.014	0.009	-0.005
Uttar Pradesh	0.266	0.138	0.054	0.116	-0.129	-0.041	-0.022	-0.011	-0.129	-0.041	-0.022	-0.011
West Bengal	0.248	0.084	0.075	0.069	0.033	-0.018	-0.032	-0.040	0.033	-0.018	-0.032	-0.040

Source: Same as Table 1

Punjab, Gujarat, Haryana, Kerala and West Bengal for ST categories for Casual workers and in Haryana, Kerala and Tamil Nadu for SC categories for casual workers, most of the states show declining trends in wage inequality among casual workers. But, for regular workers the scenario is different. An increasing level of wage inequality among regular wage earners of ST groups is observed in Assam, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Punjab and Rajasthan, Uttar Pradesh and West Bengal; while casual workers in the states of Bihar, Gujarat, Haryana, Kerala, Punjab and West Bengal faced increasing level of wage inequality. In the states of Haryana, Kerala, Maharashtra, Odisha, Punjab, Rajasthan, Uttar Pradesh and West Bengal, increasing level of inequality was observed among SC groups, and the same trend was found among the SCs working as casual workers in the states of Haryana and Kerala only. For OBCs and other groups the increase in equality is higher for most of the states for regular wage earners and wage inequality declines for casual wage earners. Similar pattern is observed in the wage growth trend also. This differential growth pattern and decline in the level of inequality among different social groups especially among STs, SCs calls for a proper policy decisions.

Patterns of Wage Disparity among Social Groups (in Terms of Endowment-Education, Industrial and Occupational Affiliation)

The above discussion highlights various patters of wage growth and inequality among various social groups among two sets of workers over the last one decade in major Indian states. Now we will try to understand the reasons behind the observed trend in wage growth. The inequality can be basically due to the endowment factors in terms of education, industry affiliation, occupational affiliation and group identity. The wage variation is not only skill specific but also sector specific.

Wage Disparity: Role of Education

The analysis pertaining to pattern of educational attainment and wage pattern among different wage earners indicates that the wage received by the different wage earners depends on the pattern of work, type of work, education and lastly the industry affiliation. The industrial affiliation plays an important role in terms of vast wage disparity among these two kinds of wage earners. If we look at the two sets of wage earners (namely regular and casual wage earners) in terms of real wage rates, we can find that they are different as per the level of education and industry affiliation. The increase in wage rate for the skilled workers due to the increase in productivity¹³ raises greater demand for educated workers. So, it leads to wage differentials across levels of education (Abraham, 2007).

First, if we look at the skill differences in terms of education, we can find vast differences in terms of average real expenditure pattern among the social group categories. This is basically due to the lower level of endowment of human capital of these categories as compared to others. There is also a wide variation in terms of wages in regular and casual wage earners. The wage growth among the regular workers is much more for the 'others' category as compared to the SC and ST population (Table 6). Among the SC community those who are illiterate or educated up to primary level, not much change was observed in their wages over the two points of time. This clearly depicts the increasing wage differential among the marginalized groups to 'others' category. The variation is also increasing corresponding to the educational groups. Interestingly, in the higher secondary education level group, an increase in the level of wages for regular earners is observed. It is clear from the table that there is a large variation in the regular wage earners' growth rates as compared to that of the casual wage earners.

Table 6: Wage Growth Differentials as per different Levels of Education

	Regular					Casual				
	ST	SC	OBC	Others	Total	ST	SC	OBC	Others	Total
Illiterate	0.05	1.00	1.68	1.35	1.29	4.74	4.90	4.93	4.44	4.83
Up to Primary	2.39	1.81	0.53	1.33	1.12	4.03	3.56	3.83	3.13	3.65
Primary	-1.58	1.45	0.47	-0.35	0.21	3.45	3.29	3.56	3.11	3.37
Middle	-2.12	-0.13	0.82	0.59	0.24	3.61	3.75	3.26	3.04	3.33
Secondary	-0.21	0.58	-0.48	-0.27	-0.33	3.41	3.52	3.15	2.29	3.07
Higher secondary	5.22	20.90	-3.07	-2.83	-2.57		8.24	1.97	6.58	7.53
Graduation and above	1.99	2.20	1.18	1.64	1.43	4.20	2.28	3.68	6.86	4.18
Total	1.59	2.22	2.14	2.00	1.87	4.61	4.61	4.60	3.84	4.50

Source: Same as Table 1

Next, the growth for the higher educational groups is more in 'others' category as compared to STs and SCs, the growth is more than twice for the higher category – both for regular and casual workers. For the secondary and middle category of workers, there is a negative growth for the ST population (see Table 4).

Wage Disparity: Role of Industry and Occupation

However, the widening wage differentials within higher educational groups give greater impetus to the argument in support of sector-biased changes in labour demand and greater inter-sectoral wage inequality. For this purpose inter-sectoral and intra-sectoral wage variations are calculated. The other set of explanation about why the wage differential occurs is mainly due to different industrial affiliation. This is essential to understand because the share of the SC/ST groups differs in accordance with different occupational and industrial groups.

The sectoral pattern in terms of wage growth shows that there is a decline in the level of wage growth for regular wage earners in agriculture and manufacturing sector for STs and SCs (Table 7). This decline is due

Table 7: Wage Growth Differentials as per different Levels of Industrial and Occupational Classifications

	Regular				Casual			
	ST	SC	OBC	Others	ST	SC	OBC	Others
	Industrial Division							
Agriculture	-1.2	1.0	0.4	1.4	4.3	4.4	4.5	3.8
Mining	3.5	3.9	6.9	7.3	6.0	1.5	1.5	0.9
Manufacturing	-1.2	0.4	1.7	2.1	3.3	3.7	3.4	2.3
Construction	2.1	3.5	1.5	2.4	3.1	2.6	2.5	2.2
Services and Others	1.0	1.3	1.1	1.3	1.3	3.4	4.0	3.6
	Occupational Division							
L & S	-0.6	-0.7	2.8	2.7	3.3	9.2	11.8	-2.3
Prof.	0.9	5.2	2.8	2.3	7.0	0.3	6.7	0.2
Tech.	2.4	0.7	0.6	1.6	1.9	3.0	9.1	4.9
Clearks	3.1	2.1	1.4	2.2		2.8	1.0	0.0
Ser. Wor.	0.7	0.5	1.3	2.4	0.1	7.4	2.2	1.2
Skill Ag.	5.6	7.3	4.9	7.0	3.9	2.8	3.0	3.0
Craft.	0.5	1.6	2.6	1.6	2.9	2.7	3.0	1.7
Plant.	-0.4	0.4	1.4	2.0	2.1	2.4	3.8	2.6
Elem.	-0.1	2.0	1.0	0.6	4.8	4.8	5.0	4.4

Source: Same as Table 1

to slowing down of productivity growth in this sector. Such a decline in the productivity growth in agricultural sector has clearly examined by Himanshu (2006). Due to the growth of construction sector, there is an increase in the wage growth for SC groups. There is an increase in the percentage share of SC groups. Negative growth rates are observed among the regular wage earners in the ST groups, while for casual wage earners in all the social groups, positive growth rates are observed. As there is a growing percentage share of construction workers, the growth rate of construction workers is larger as compared to others category of workers in the rural area. Overall, the percentage growth is higher for the others category as compared to other categories of wage earners as per industrial classifications. There is a change in the wage differentials between agriculture to other sectors among different social groups during the last one decade. Most of the sectors show rising wage differentials for regular wage earners during the period 1999-00 to 2011-12.

For the occupational categories also, in the top class jobs such as legislators and professionals there is a negative growth rate of wages for ST and SC category and the growth rate of wages for STs and SCs is also lower as compared to other groups (see Table 7). Even in low end occupations there is a decline in the growth of wages among the STs in regular wage earners. With the decline in the growth rate of wages there is a corresponding decline in the wage differential among other elementary workers to 'others' occupations among STs and SCs while there is an increase in it for other category of workers. This is a worrying aspect in the inclusive growth policy of the government.

Decomposing Inequality by Industry, Occupation and Education

The contribution of educational achievement and industry affiliation to wage inequality is measured by decomposing the inequality measures into between- and within-inequality component.¹⁴

The decomposition of mean log deviation, Theil Index and coefficient variation into between and within industrial wage inequality, occupational and educational groups is reported in Table 8. The proportion of inequality between and within component is shown through different sets of general entropy of measures. The results clearly indicate that for regular wage earners the major proportion of wage inequality accounted by inequality among individuals within educational groups rather than between individuals at different educational levels. This proportion is found to be increasing in the recent periods. But for casual wage earners the scenario is somewhat different.

Table 8: Decomposition of Wage Inequality by Educational, Industrial and Occupational level

	55th Round			68th Round			55th Round			68th Round		
	Regular						Casual					
	GE(0)	GE(1)	GE(2)	GE(0)	GE(1)	GE(2)	GE(0)	GE(1)	GE(2)	GE(0)	GE(1)	GE(2)
	Decomposition of wage inequality among regular and casual workers by Industry groups											
Overall	0.329	0.266	0.274	0.415	0.384	0.469	0.1	0.105	0.129	0.089	0.086	0.094
Within	0.28	0.223	0.235	0.357	0.336	0.427	0.083	0.087	0.109	0.077	0.075	0.081
Between	0.049	0.043	0.039	0.057	0.048	0.042	0.017	0.018	0.02	0.012	0.012	0.012
Overall	0.368	0.335	0.431	0.357	0.362	0.489	0.12	0.121	0.144	0.09	0.089	0.1
Within	0.341	0.31	0.408	0.339	0.345	0.472	0.11	0.111	0.133	0.085	0.084	0.095
Between	0.027	0.025	0.023	0.018	0.017	0.017	0.009	0.01	0.011	0.005	0.005	0.005
Overall	0.355	0.327	0.411	0.343	0.346	0.459	0.141	0.149	0.187	0.106	0.11	0.13
Within	0.314	0.29	0.376	0.315	0.319	0.432	0.12	0.127	0.163	0.095	0.098	0.118
Between	0.041	0.037	0.035	0.029	0.027	0.027	0.021	0.022	0.025	0.011	0.011	0.011
Overall	0.324	0.287	0.348	0.389	0.367	0.456	0.137	0.151	0.261	0.097	0.097	0.113
Within	0.295	0.261	0.324	0.373	0.352	0.442	0.12	0.133	0.241	0.086	0.087	0.102
Between	0.029	0.026	0.024	0.015	0.015	0.015	0.017	0.018	0.02	0.011	0.011	0.011
	Decomposition of wage inequality among regular and casual workers by Occupational groups											
Overall	0.331	0.267	0.275	0.413	0.381	0.46	0.1	0.105	0.129	0.089	0.086	0.094
Within	0.233	0.181	0.194	0.288	0.266	0.347	0.091	0.095	0.117	0.086	0.083	0.09
Between	0.098	0.087	0.082	0.125	0.115	0.113	0.009	0.01	0.012	0.003	0.003	0.003
Overall	0.368	0.335	0.431	0.357	0.362	0.489	0.12	0.121	0.144	0.09	0.089	0.100
Within	0.306	0.272	0.365	0.295	0.294	0.413	0.11	0.11	0.132	0.087	0.087	0.097
Between	0.062	0.063	0.067	0.063	0.068	0.076	0.01	0.011	0.012	0.002	0.002	0.002

(contd.)

		Decomposition of wage inequality among regular and casual workers by Educational groups															
OBC	Overall	0.355	0.327	0.411	0.344	0.346	0.459	0.141	0.149	0.187	0.105	0.109	0.13				
	Within	0.286	0.257	0.337	0.276	0.273	0.378	0.118	0.125	0.16	0.096	0.099	0.118				
	Between	0.069	0.07	0.074	0.068	0.073	0.082	0.022	0.025	0.028	0.01	0.01	0.011				
Others	Overall	0.324	0.288	0.349	0.389	0.367	0.457	0.137	0.151	0.261	0.096	0.097	0.113				
	Within	0.248	0.217	0.28	0.317	0.296	0.385	0.117	0.129	0.237	0.092	0.092	0.107				
	Between	0.077	0.071	0.069	0.072	0.071	0.072	0.02	0.022	0.024	0.005	0.005	0.005				
		Decomposition of wage inequality among regular and casual workers by Educational groups															
ST	Overall	0.345	0.277	0.282	0.415	0.384	0.469	0.099	0.105	0.128	0.089	0.086	0.094				
	Within	0.223	0.164	0.17	0.265	0.241	0.321	0.094	0.099	0.122	0.087	0.085	0.092				
	Between	0.122	0.113	0.113	0.15	0.143	0.147	0.005	0.005	0.006	0.002	0.002	0.002				
SC	Overall	0.363	0.337	0.444	0.357	0.362	0.489	0.12	0.121	0.145	0.09	0.089	0.100				
	Within	0.289	0.26	0.36	0.269	0.271	0.389	0.113	0.114	0.137	0.088	0.088	0.098				
	Between	0.074	0.077	0.084	0.088	0.092	0.1	0.007	0.007	0.008	0.002	0.002	0.002				
OBC	Overall	0.361	0.337	0.42	0.343	0.346	0.459	0.141	0.149	0.187	0.106	0.11	0.13				
	Within	0.288	0.26	0.335	0.26	0.261	0.369	0.126	0.134	0.171	0.101	0.105	0.125				
	Between	0.073	0.077	0.086	0.084	0.085	0.091	0.015	0.015	0.016	0.005	0.005	0.005				
Others	Overall	0.338	0.303	0.371	0.389	0.367	0.456	0.136	0.151	0.263	0.097	0.097	0.113				
	Within	0.248	0.217	0.286	0.299	0.283	0.374	0.124	0.138	0.25	0.092	0.093	0.108				
	Between	0.09	0.085	0.085	0.09	0.084	0.082	0.013	0.013	0.013	0.004	0.005	0.005				

Source: Author's own computation from the 55th and 68th Employment and Unemployment Unit level Data sets

Out of the overall inequality among individuals by educational groups, the within inequality component is higher as compared to between component. This is clearly visible through different sets of inequality measures (see Table 8). The between component is small possibly because of majority of these groups have either no education or have least education (Dutta, 2007). The mean log deviation shows a higher level of inequality as compared to other inequality measures.

The General entropy inequality measures are also decomposed into wage inequality between and within 9 occupational groups in Table 8. The picture of occupational classification shows the same picture among social groups. The results clearly show that overall inequality measures among regular workers are higher than that of casual workers. Interestingly, among the regular workers, the ST group shows an increase in overall, between and within component inequality, whereas for OBC groups it is declining. As far as the casual workers are concerned, within and between group components is found to be declining in the recent periods. The General entropy measures are also decomposed into wage inequality between and within 3 industry groups, namely Agriculture, industry and services. Similar to that of education level in the services group, the within group component accounts higher than between the group component, both for regular as well as casual workers in 2 points of time. The proportion of within group component is higher for the casual wage labourers than that of regular wage earners. In both points of time for regular wage earners the overall inequality measure shows an increasing trend while that for casual workers show a declining trend in this analysis.

Blinder-Oaxaca Decomposition Results

In this study we have used the Blinder-Oaxaca decomposition technique to measure the labour market outcomes by different sets of indicators. In this technique some of the indicators which may lead to change the level of wages in the rural India have taken. These are basically the level of education, Occupation, Gender, age, religion and region effects. Here we took two points of time (1999-00 and 2011-12) to analyze the pattern of shift in the wage distribution and its determinants as well. First, the SC and ST are grouped as one and OBCs and 'others' as another group. Later the group effects are shown in terms of STs to Others, SCs to Others, STs to OBCs and SCs to OBCs. As per the Blinder-Oaxaca methodology, average caste wage gap between two social groups was decomposed. The set of variables in this model includes per day wages, age, sex, education, occupation, region and religion.

In this decomposition analysis, Blinder-Oaxaca, first estimates two group-specific regression models and then performs the decomposition analysis and the output arrived at indicates the mean prediction by groups and their corresponding difference. (Jann, 2008) As shown in Table 9 & 9.1 for the period 55th round for the overall group, the mean log wage is 4.44 for SCs/STs and 4.30 for 'others' yield a wage gap of 0.15 for regular workers. In the 68th round the figures show the wage gap as 0.13. Among the casual wage earners the mean wage gap is higher for STs to Others categories when compared to other specific categories. Results also clearly depicts that the endowment components are larger than the discrimination components for both periods in the study. The endowment component explains more than 100 per cent during 1999-00 and 2011-12 for regular wage earners. While for casual groups the discrimination and endowment (Unexplained and Explained) component is 46 per cent and 54 per cent respectively during 1999-00 and 60 per cent and 40 per cent during 2011-12. It is very much clear from the results that the large endowment difference in the developing countries like India implies that pre-market discriminatory practices with respect to education, health and nutrition are more crucial in explaining wage differentials than labour market discrimination (Madheswaran and Attewell, 2007).

The endowment effects seem to be decreasing over the two points of time in our analysis, while the discrimination components seem to be increasing after the period of 1999-00. The relative contribution of other independent factors for the observed wage gap is also given in this model. The largest factor explaining the log wage difference in 55th round for all groups is education followed by occupation in terms of endowment effect for all groups. Among the other groups the explained component is different in both the rounds.

While in the 68th round it is higher education and occupational affiliation that are found to be discrimination components in wage gap. Even the percentage share in terms of endowment effect among ST and SC group and non-ST and non-SC groups is increasing in education and occupational affiliation in the recent periods. So, it suggests that occupational affiliation and education is an important driver of differences in earnings by caste groups. The endowment effect shows a declining trend over the two time points – this is consistent with the evidence available on impact of reservation system in the education (Madheswaran and Attewell, 2007). Here, the study only showed the overall picture of wage differential in terms of explained and unexplained effects among STs and SCs and non-STs and non-SCs. For other groups, comparisons with gender, age, occupation shows maximum endowment differences.

Table 9: Blinder-Oaxaca Decomposition Results for Daily Wage across different Social Groups (1999-00 & 2011-12)

	Regular						Casual								
	All		ST/SC to Non-ST/SC		ST to Others		ST/SC to Non-ST/SC		ST to Others		ST/SC to Non-ST/SC		ST to Others		
	ST/SC to Non-ST/SC	ST/SC	ST to Others	ST to OBC	SC to Others	SC to OBC	ST/SC to Non-ST/SC	ST/SC	ST to Others	ST to OBC	SC to Others	SC to OBC	ST/SC to Non-ST/SC	ST to Others	ST to OBC
	1999-00														
Mean prediction high (H)	3.81	4.44	4.58	4.58	4.47	4.28	3.6	3.66	3.66	3.66	3.57	3.57	3.6	3.66	3.57
Mean prediction low (L)	3.61	4.3	4.47	4.22	4.28	4.22	3.52	3.4	3.4	3.57	3.4	3.57	3.52	3.4	3.4
Raw differential (R) {H-L}	0.2	0.15	0.11	0.36	0.19	0.06	0.08	0.25	0.08	0.08	0.17	0	0.08	0.25	0.08
due to endowments (E)	0.16	0.16	0.23	0.26	0.01	0.07	0.04	0.1	0.04	0.04	0.08	0.01	0.04	0.1	0.04
due to coefficients (C)	0.03	-0.03	-0.11	0.07	0.18	-0.01	0.02	0.11	0.02	0.11	0.07	-0.01	0.02	0.11	0.02
due to interaction (CE)	0.02	0.01	-0.01	0.03	0	0.01	0.02	0.04	0.02	0.04	0.02	0	0.02	0.04	0.02
Unexplained (U){C+(1-D)CE}	0.05	-0.01	-0.12	0.1	0.18	-0.01	0.04	0.15	0.04	0.15	0.09	-0.01	0.04	0.15	0.04
Explained (V) {E+D*CE}	0.16	0.16	0.23	0.26	0.01	0.07	0.04	0.1	0.04	0.1	0.08	0.01	0.04	0.1	0.04
% unexplained {U/R}	23.6	-8.5	-103.9	27.7	96.6	-9.4	45.8	60.5	51.4	60.5	53.7	-1215.6	45.8	60.5	53.7
% explained (V/R)	76.4	108.5	203.9	72.3	3.4	109.4	54.2	39.5	48.6	39.5	46.3	1315.6	54.2	48.6	46.3
	2011-12														
Mean prediction high (H)	7.28	7.64	7.77	7.77	7.58	7.55	7.14	7.14	7.14	7.14	7.14	7.14	7.14	7.14	7.14
Mean prediction low (L)	7.14	7.51	7.58	7.49	7.55	7.49	7.08	6.95	7.14	6.95	7.14	7.14	7.08	6.95	7.14
Raw differential (R) {H-L}	0.14	0.13	0.18	0.28	0.03	0.06	0.06	0.19	0.01	0.19	0.01	0.01	0.06	0.19	0.01
due to endowments (E)	0.11	0.15	0.2	0.24	-0.04	0.08	0.02	0.02	0	0.02	0	0.01	0.02	0	0.01
due to coefficients (C)	0.02	-0.01	-0.04	0	0.04	-0.01	0.03	0.12	0.01	0.12	0.01	-0.01	0.03	0.12	0.01
due to interaction (CE)	0.01	-0.01	0.02	0.04	0.03	-0.01	0.01	0.06	0	0.06	0	0.03	0.01	0.06	0
Unexplained (U){C+(1-D)CE}	0.04	-0.02	-0.02	0.04	0.07	-0.02	0.04	0.17	0.01	0.17	0.01	0	0.04	0.17	0.01
Explained (V) {E+D*CE}	0.11	0.15	0.2	0.24	-0.04	0.08	0.02	0.02	0	0.02	0	0.06	0.02	0	0.06
% unexplained {U/R}	24.8	-15.8	-11.5	12.8	212.8	-24.9	60.2	88.1	80.9	88.1	68.4	-61.4	60.2	88.1	68.4
% explained (V/R)	75.2	115.8	111.5	87.2	-112.8	124.9	39.8	11.9	19.1	11.9	31.6	161.4	39.8	11.9	31.6

Source: Author's own estimation based on 55th and 68th employment and unemployment survey

Table 9.1: Percentage Distribution of Endowment Effect across different Social Groups

	All		Regular					Casual				
	ST/SC to Non-ST/SC	ST/SC to Non-ST/SC	ST to Others	SC to Others	ST to OBC	SC to OBC	ST/SC to Non-ST/SC	ST to Others	SC to Others	ST to OBC	SC to OBC	
	1999-00											
Sex	14.8	9.4	11.7	8.8	-233.3	3.0	34.9	36.4	61.0	22.1	0.0	
Age	1.3	15.7	9.5	16.2	100.0	26.9	0.0	0.0	-2.4	0.0	-7.7	
Religion Group	1.9	-6.3	-7.8	2.3	350.0	-14.9	7.0	16.2	24.4	-1.3	-15.4	
Education Group	41.3	75.5	82.7	70.0	-216.7	76.1	32.6	27.3	51.2	18.2	53.8	
CWS NCO Group	34.2	4.4	0.4	5.0	66.7	4.5	4.7	4.0	2.4	2.6	7.7	
Region Group	7.1	0.6	3.0	-1.9	33.3	4.5	23.3	16.2	-39.0	58.4	53.8	
	2011-12											
Sex	14.3	18.4	32.5	12.3	102.6	3.8	37.5	130.4	1800.0	26.7	-33.3	
Age	1.9	-6.8	-8.9	9.0	-133.3	-19.0	4.2	0.0	100.0	0.0	11.1	
Religion Group	6.7	0.0	-7.9	0.4	17.9	0.0	29.2	34.8	2200.0	3.3	22.2	
Education Group	28.6	79.6	85.7	73.4	107.7	98.7	12.5	8.7	400.0	1.7	11.1	
CWS NCO Group	42.9	8.8	4.4	7.4	-10.3	11.4	0.0	0.0	0.0	0.0	0.0	
Region Group	5.7	0.0	-5.9	-2.5	15.4	6.3	16.7	-73.9	-4300.0	68.3	88.9	

Source: Author's own estimation based on 55th and 68th employment and unemployment survey

Conclusion

From the above analysis the study found that overall wage growth of marginalised groups is lower as compared to other groups in two points of time and considerable disparities exist in terms of employment and earning standard. Although, in the recent times some improvements are observed, still it is less as compared to other groups such as OBCs and Others in rural India. The wage growth of the regular workers is less than that of the casual workers at all India level and most of the states in rural India. At the all India level, in the case of wage for regular workers, the wage inequality is increasing while that of casual workers shows a falling trend in most of the states. The main factors for this observed trend among the SC and ST communities is due to the endowment factors in terms of education and occupational affiliation as well. This could be clearly visualized from the differences in the levels of education with that of changes in wage rates. This wage inequality is higher for regular workers as compared to casual workers in most of the Indian states. In this study, it is found that in most of the industries the share of SC/ST wage is less as compared to others. The decomposition of wage inequality by education and industry affiliation depicts that major proportion of wage inequality is accounted within groups rather than between groups among casual workers. For the regular wage earners the overall wage inequality shows an increasing trend. While examining the changes in the wage share, the decomposition analysis through Blinder-Oaxaca method is also taken into account. It is observed that the endowment effect plays an important role than the discrimination effect in rural India. Occupational affiliation and education is an important driver of differences by earnings by caste groups. The overall trend in the wage market points to the serious policy attention towards skill and educational development of the marginalized groups in rural India. It is essential to not only provide job opportunities to the excluded groups through quota but also enable them to become employable through proper quality of education and hands-on skill formation.

The Blinder and Oaxaca Decomposition

The aim of the Blinder-Oaxaca decomposition is to explain how much of the difference in mean outcome across two groups is due to group differences in the levels of explanatory variables, and how much is due to differences in the magnitude of regression coefficients. This can be used to understand the labour market outcomes of wage differentials in terms of different characteristics. The Blinder-Oaxaca model can be understood by this simple diagrammatic analysis.¹⁵ In this analysis there is one outcome variable as wage rate, let's say it is y . In this present exercise we can take categories of SC/ST as one group and OBC and Others as other two groups termed as Non-SC/ST.

The wage level can be explained by a vector of determinants x , according to the regression model.

$$y_i = \begin{cases} \beta^{SC/ST} x_i + e_i^{SC/ST} & \text{if SC/ST} \\ \beta^{Non-SC/ST} x_i + e_i^{Non-SC/ST} & \text{if Non-SC/ST} \end{cases}$$

Where, the vectors of β parameters include intercepts. In the case of a single regressor, drawn in above figure, the Non-SC/ST is assumed to have a more advantageous regression line than the SC/ST. At each value of x , the outcome y is better. In addition, the Non-SC/ST is assumed to have a higher mean of x . The result is that the SC/ST has a lower mean value of y than the Non-SC/ST has.

The gap between y Non-SC/ST and y SC/ST is equals to,

$$y^{non-SC/ST} - y^{SC/ST} = \beta^{non-SC/ST} x^{non-SC/ST} - \beta^{SC/ST} x^{SC/ST}$$

Where $x^{non-SC/ST}$ and $x^{SC/ST}$ are vectors of explanatory variables evaluated at the means for the non-SC/ST and the SC-ST. Estimates of the difference in the gap in mean outcomes can be obtained by substituting sample means of the x 's and estimates of the parameters β 's into the above equation. Now, we can examine how much overall gap is due to the each specific x attributes,¹⁶ that is, differences in x 's is called as explained component and the another part β is called as the unexplained component.

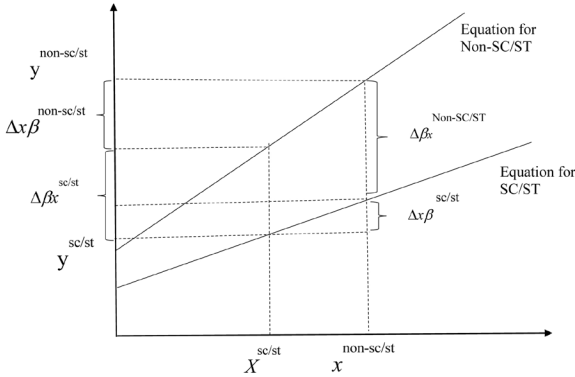
From figure the gap between two outcomes can be seen as,

$$y^{non-SC/ST} - y^{SC/ST} = \Delta x \beta^{SC/ST} + \Delta \beta x^{non-SC/ST}$$

Where, $\Delta x = x^{non-SC/ST} - x^{SC/ST}$ $\Delta \beta = \beta^{non-SC/ST} - \beta^{SC/ST}$

The decomposition of the above equations can take a more general form

$$as, \quad y^{non-SC/ST} - y^{SC-ST} = \Delta x \beta^{SC-ST} + \Delta \beta x^{non-SC-ST} + \Delta x \Delta \beta$$



Where, gap in mean outcome can be understood through the gap in endowments E, gap in coefficient C and gap arising out of the interaction term CE. In this present study we took the log of wage as the dependent variable. The log of wage rate is taken as the function of a set of variables (such as, education, industrial affiliation, log of age, sex) depending upon the impact of these variables on wage rate.¹⁷ In this study we estimated the mean caste wage gap in the Indian labour market, both for regular as well as casual, and the extent to which the differences can be explained by the differences through the endowments and discrimination components.

Notes

1. Studies of Despande (2013), Ghosh (2016), Mukherjee (2007), Abraham (2007), Naqvi (2014), Dutta (2005) clearly showed this phenomenon that the Gini coefficient increases from 0.31 in 1993-94 to 0.34 in 2011-12. Studies of Dutta (2005) showed that the level of wage inequality for regular worker has increased from 0.393 in 1983-84 to 0.429 in 1999-00. By examining the NSSO data, Abraham (2007) shows that for the regular workers the wage rate in the 10th decile is 33 times higher than that of the first decile in both the years 1983-84 and 2004-05.
2. Studies of Das and Dutta (2007), Suryanarayana (2008) clearly visualized this phenomenon.
3. In the present study it is important to examine this phenomenon for rural area, because the rural economy is changing in the present discourse and also there are very few state-specific studies which examined this for both casual and regular wage earners in rural India.
4. Das and Dutta, 2007, pp. 4
5. For detail understanding of the concerned data sets, kindly see the Report No-554, 68th NSSO Employment and Unemployment Survey.
6. As per the NSSO definition, these were persons who casually engage in others' farm or non-farm enterprises (both household and non-household) and in return receive salary or wages according to the terms of the daily or periodic work contract were considered as a casual labour (Employment and Unemployment Survey, NSSO 68th round)
7. As per the NSSO definition, these were persons who work in others' farm or non-farm enterprises (both household and non-household) and in return receive salary or wages on a regular basis. (Employment and Unemployment Survey, NSSO 68th round)
8. We did this exercise of data trimming as given in the Abraham (2007) analysis.
9. For details regarding computation of population projection, kindly refer to the report No-554, 68th NSSO employment and unemployment survey. The census adjustment has done on the basis of census and NSSO employment data sets. First, the Weighted NSSO population figure has been estimated from the concerned NSSO employment and unemployment rounds, both for rural-urban and male and female differently; after that, the given figures are divided by the concerned census population figures. After getting the ratios, these are multiplied with the multiplier figures to get the census adjusted weights.

10. “The most commonly used values of α are 0, 1 and 2. A value of $\alpha=0$ gives more weight to distances between wages in the lower tail, $\alpha=1$ applies equal weights across the distribution, while a value of $\alpha=2$ gives proportionately more weight to gaps in the upper tail. The GE measures with parameters 0 and 1 become, with l’ Hopital’s rule, two of Theil’s measures of inequality, the mean log deviation (GE(0) or MLD) and the Theil index (GE(1)) respectively, and with parameter 2 becomes half the squared coefficient of variation” Das and Dutta (2007).
11. For detail understanding of the decomposition, kindly see the appendix and report of The World Bank study on Analysing health Equality using Household Survey Data and concerned studies of Madheswaran and Attawal (2007).
12. With the given Gini statistics for both the years, 2011-12 Gini is subtracted from 2004-05 Gini, if it’s coming positive means there is a growing wage inequality, if negative, means there is a decline in the wage inequality.
13. Through technological change
14. See Dutta (2007) for details. The Generalised Entropy class of measures can be decomposed by population subgroup, so that the overall inequality (I) can be separated into within-group (Iw) and between-group (Ib) inequality (Das and Dutta, 2007)
15. The graph and equation is replicated in this study for easy understanding about the decomposition method taken from the Analysing Health Equity Using Household Survey Data, WHO Report (2008).
16. Education, industry affiliation etc.
17. In this study we are not presenting the whole mathematical derivation and other equations, we are only presenting the results based on Blinder and Oaxaca Results. For the detailed analysis readers can go through the selected readings, Jann (2008), Das and Dutta (2007).

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