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Title: Gender and Social differentials in Employment Situation In India

Abstract: Assessment of social disparity in various grades of employment provides comparative insight about the impact of affirmative policies in India. Affirmative policies in India have been implemented for almost six decades, which are expected to bring the historically backward caste groups representation in employment in par with the forward caste group. In this paper, we use the simple arithmetic and geometric ratios and further theil index of disparity to measure between and within group disparities among the social groups in terms of representation in various grades of employment. Results reveal that The difference between the social groups in terms of participation in employment further increased with the inclusion of persons with higher education. Consistently, the gap between the caste Others and ST, SC, OBC further widened in participation in employment when higher education is taken into consideration. Analysis by gender also reveals between male and female disparities are significant within social group in employment. Results reveal that backward caste group of India still lag far behind compared to forward caste group in terms of representation at higher grades of employment.

Introduction

Historically in India, the hierarchical system of caste (endogenous social groups classified mainly by type of occupation but attained through birth) denied education as also access to high income yielding occupation to those who were kept in the lower strata which are now called as Scheduled Castes (SC) and Scheduled tribes (ST) of India. Scheduled castes are a constitutionally declared collection of castes, which suffered from the practice of untouchability.

Scheduled tribes are identified on the basis of certain criteria such as primitive traits, distinct culture, geographical isolation and general backwardness (Singh, 1994). Accordingly, the hierarchical system of caste in India denied education as also access to high income yielding occupation to those who were kept in the lower strata which are now called as Scheduled Caste (SC) and Scheduled tribe (ST) of India. Hence, in India caste has been the critical determinant of class position, resulting in acute inequality in the distribution of wealth and income (Mehta and Kapoor, 1998).

Education is universally recognized as a critical investment for human capital. While the importance of education as a determinant of earning was recognized by Adam Smith, the implication of this approach has been spelt out more clearly by Becker (1969) in his famous 'human capital' approach. The major problem with the human capital approach to earning differentials is that education explains only part of the dispersion of individual earnings (Atkinson, 1975).

Higher Education and linkages to employment

Higher education has positive impact on economic growth. With the restructuring of the economic base, there is a massive shift from mass industrial production to high technology manufacturing and information processing which leads to great demand in higher and technical education. Growth in producer services involves the expansion of the labour forces of professionals commanding relatively higher salaries such as executives, administrators, financial analyzers, programmers. In the present context, higher education not only provides high skills for labour market, but

also the learning and training required for different professions such as doctors, engineers, civil servants etc. These trained individuals in their own field drive local economies which in turn effect governments and society at large.

According to UNESCO, *"higher education is no longer a luxury; it is essential to national, social and economic development"*. Educational reforms, therefore, are more intrinsically tied-up with and can have stronger influence on the youth employment opportunities than ever before. The complex inter-relation between educational policies, pedagogical methodologies and job/labor market dynamics, therefore, presents us with many interesting facets, which are worth analyzing for identifying decisive pathways for the development of today's youth, who are going to be the primary labor force of tomorrow's world.

As per 2001 census, 61.6 percent of labor force is engaged in agriculture as compared to 17.2 percent in industry and 21.2 percent in services. There are continuing changes with slowly increasing labor participation rate in services and decreasing share of agriculture with industry labor share remaining almost constant. India's growth (in GDP terms or in labor participation terms) has followed a non-conventional trajectory of shifting the growth engine directly from agriculture to services almost bypassing the labor-intensive industrial or manufacturing sector. This has a far reaching implication in terms of absolute numbers of job creation because of lower labor intake of service sector as compared to industry.

However, growth in services particularly enhances the employment opportunity for high educated youth (with at least a post-secondary degree) and in reality, India is slated to face a skill shortage in that sector due to low enrolment rate in higher education and absence of employability skills among the educated youth. The critical issue is, however, the low ratio of skilled to unskilled labor (Agarwal, 2007) in India (0.15) as compared to USA (0.54), Japan (0.22), UK (0.39) or Russia (0.39) which prohibits the growth of new skill intensive and skill-specific job markets in the expanding knowledge-based economy. On the positive side, due to the sheer size of the labor population (and the expanding base of future labor population i.e. current youth), even that low ratio can translate to a formidable force, if correct policies are implemented and basic skills are imparted in right manner.

The report from National Sample Survey Organization (NSSO) for 1999-2000 estimates declared that in the labour force growth was 2.43 percent per annum between 1983 to 1993-94 and 1.3 percent per annum between 1993-94 to 1999-2000. This deceleration in the labour force has happened inspite of the fact that the working age population (15-59 years) increased more than 2.5 percent per annum over this period. The percentage of casual labour category has increased significantly since 1977-78 and mainly at the expense of self employed category. The regular salaried labour in proportion has almost remained same over time. This increased casualisation of labour has been of some concern vis-à-vis the job quality and security of employment.

From this background, this paper presents a set of estimates of employment in India for 2005-06 based on the 62nd round National Sample Survey (NSS) Employment-Unemployment Surveys (EUS). The main objective of this

paper is to examine the levels of employment and its penetration by type of employment of social groups, with a focus on participation in employment. This is followed with an examination of demographic characteristics such as gender and social groups.

II. Data Source and Methodology

The results in this paper are principally based on the analysis of the unit record data from the NSSO (National sample Survey Organisation) 62nd round (2005-06) on employment and unemployment survey (EUS) in India. In the NSSO 62nd round question is asked on usual (principal) status worker by their activity status.

The following definitions are used by the NSSO:

Activity status: It is the activity status in which a person was found during a reference period with regard to the person's participation in economic and non-economic activities.

Self-employed: Persons who operated their own farm or non- farm enterprises or were engaged independently in a profession or trade on own-account or with one or a few partners were deemed to be self-employed in household enterprises. The essential feature of the self employed is that they have *autonomy* (i.e., how, where and when to produce) and *economic independence* (i.e., market, scale of operation and money) for carrying out their operation. The fee or remuneration received by them comprised two parts - share of their labour and profit of the enterprise. In other words, their remuneration was determined wholly or mainly by sales or profits of the goods or services which were produced**.**

Categories of self-employed persons: Self-employed persons were categorised as follows:

Own-account workers: those self-employed persons who operated their enterprises on their own account or with one or a few partners and who, during the reference period, by and large, ran their enterprise without hiring any labour. They could, however, have had unpaid helpers to assist them in the activity of the enterprise;

Employers: those self-employed persons who worked on their own account or with one or a few partners and, who, by and large, ran their enterprise by hiring labour; and

H**elpers in household enterprise**: those self-employed persons (mostly family members) who were engaged in their household enterprises, working full or part time and did not receive any regular salary or wages in return for the work performed. They did not run the household enterprise on their own but assisted the related person living in the same household in running the household enterprise.

Regular salaried/wage employee: These were persons who worked in others' farm or nonfarm enterprises (both household and non-household) and, in return, received salary or wages on a regular basis (i.e. not on the basis of daily or periodic renewal of work contract). This category included not only persons getting time wage but also persons receiving piece wage or salary and paid apprentices, both full time and part-time.

Casual wage labourer: A person who was casually engaged in others' farm or non-farm enterprises (both household and non- household) and, in return, received wages according to the terms of the daily or periodic work contract, was a casual wage labour.

First, the base population in the 15-59 age groups is considered as the working population. Analysis done by groups ST, SC, OBC and Others along with the background characteristics such as region, gender etc.

The principal usual status is used to determine the type and level of employment among the social groups. The categories in the principal work status are as given in the above definitions. Further, comparative analysis is done by social groups with general education in the age group 15-59 is taken to see the disparities in employment participation among these groups.

To measure the inequality between groups by employment we divide the categories of principal status into grade I and grade II into rich (non casual) and poor (casual) employment. Grade I consists of categories of self employed, employer and regular wage salaried employee and gradeII consists of casual wage labourer non public works and casual wage labourer in public works.

Let us consider a population is divided into k mutually exclusive and exhaustive groups: group k contains P_k persons of working age group fifteen to fifty nine, E_k persons who are employed.

For the present paper we partition the population into 4 social groups in terms of hierarchy of social group classification in India: SC, ST, OBC and Others caste, hence our k = 1, 2, 3, 4. Then the corresponding totals is denoted by

$$P = \sum P_k ; E = \sum E_k ,$$

The arithmetic mean is defined as:

$$e = \sum_{k=1}^{4} e_k p_k ,$$ where $p_k = P_k/P$ and P is the total population in the age group 15-59.

And employment rate for group k is defined as $e_k = E_k/P_k$ as the employment rate for the group k with $\sum_{k=1}^{4} p_k = 1$

and

The geometric mean is defined as $e^g = \prod_{k=1}^{4} (e_k)^{p_k}$

Then the measure of inequality between employment rich and poor ratio is given as the natural logarithm of the ratio of the arithmetic mean employment rate to the geometric mean employment rate and is calculated as follows:

$$I_e = \log(e) - \sum_{k=1} n_k \log g()$$

Further the analysis for inequalities between and within caste by demographic characteristics was analysed using Theil index.

Theil index provides a decomposition of the total inequality in two main components: between and within group inequality, thus this index can be used to analyze whether between group disparities by social groups or within group disparities by background characteristics or both impacts the level of inequality in terms of achievement in participation in employment by social groups. The interaction between these two components although is complex but it gives the overall disparity between the groups. For our analysis, let us consider the total number of individuals i in the age group 15-59, grouped into four categories: ST, SC, OBC and Others.

Let, R_i = ratio of the total number of employees to the total number of population in the age group 15-59 and P_i = population share of the group i in the entire population of age group 15-59. Then overall inequality can be represented as follows:

$$T = \sum_{i=1} P_i R_i \log R_i + \sum_{i=1} P_i R_i T_i$$

Where $T_i \equiv \dfrac{1}{n_i} \sum_{j \in S_i} r_j \log r_j$

Where $j \in S_i$ indicates that T_i is generated by summing up all persons comprising group i, and r_j is the ratio of individual with that participation level to the total number of population in the age group 15-59 for a given background characteristics such as region, gender and household types. The first term in the value of T gives the extent of between group inequality across all the four groups and the second term is the extent within group inequality across all the four groups, thus, it is a group specific measure. At different level of employment, if the Theil index value is approximately equal to zero then we can say that the within group, disparity is lower. Negative value of each term in the summation of the total index will represent the negative contribution to the overall Theil index which again contributes in bringing down the scale of equality among different social groups. On other hand, positive value of each term in the summation of the total index contributes positively towards overall scale of equality. Thus overall the summation 'T' shows positive or negative values, the decompositional property of 'T' will show the individual groups contribution to the overall sum.

Disparities in Employment Participation

This section is an analysis of participation in employment with focus on principal status by social groups and demographic characteristics. Also we examine the differentials in employment rate by achievement in higher education for the time period 2005-06.

Figure 1 shows the distribution of principal work status by gender. As seen from the figure except for the category of others and unpaid family worker in principal work status, rest of the categories of principal work status shows female participation less than the male participation in employment. Among males, the highest participation of principal work status is in the category of employer, in which the female showed lowest participation. Female shows the highest participation in the category of others and unpaid family worker of principal work status.

Figure 1: Percent distribution of principal work status by gender in India, 2005-06
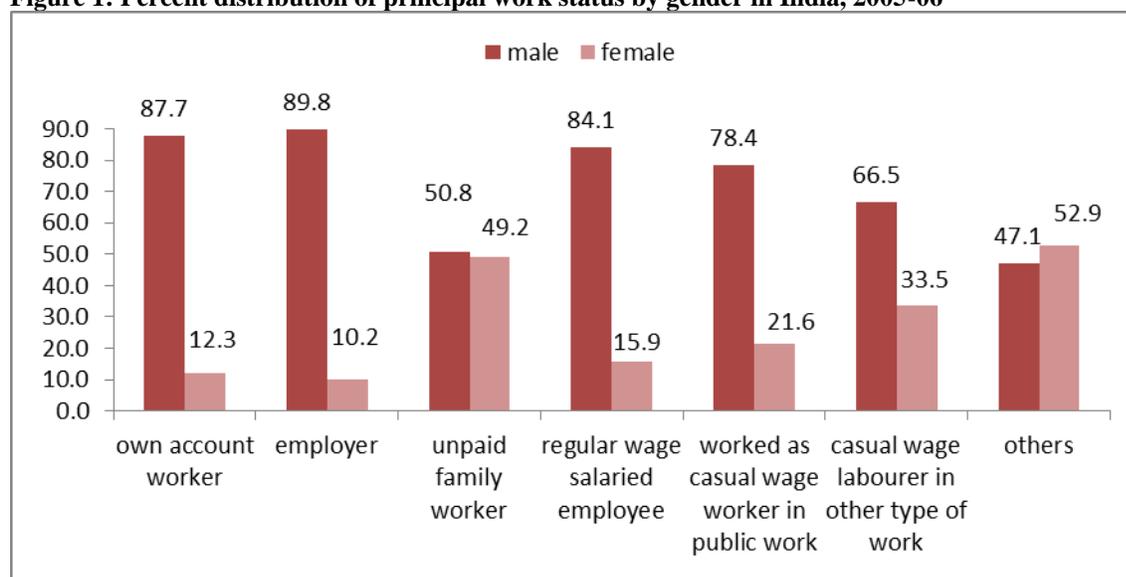
Figure 2 shows the participation of male in principal work status by social groups in India during the period 2005-06. The Others caste shows a higher participation in categories of principal work status such as own account worker, regular wage employee and employer. Whereas, the caste ST and SC shows highest participation in categories of principal work status such as casual wage labourer in public and other type of work. The category others in principal work status shows a higher participation of the caste OBC. Thus categories of casual labourer is predominantly represented by caste SC whereas the regular based employees and own account worker are represented by the caste Others.

Figure 2: Percent distribution of male principal work employment status by social groups in India, 2005-06
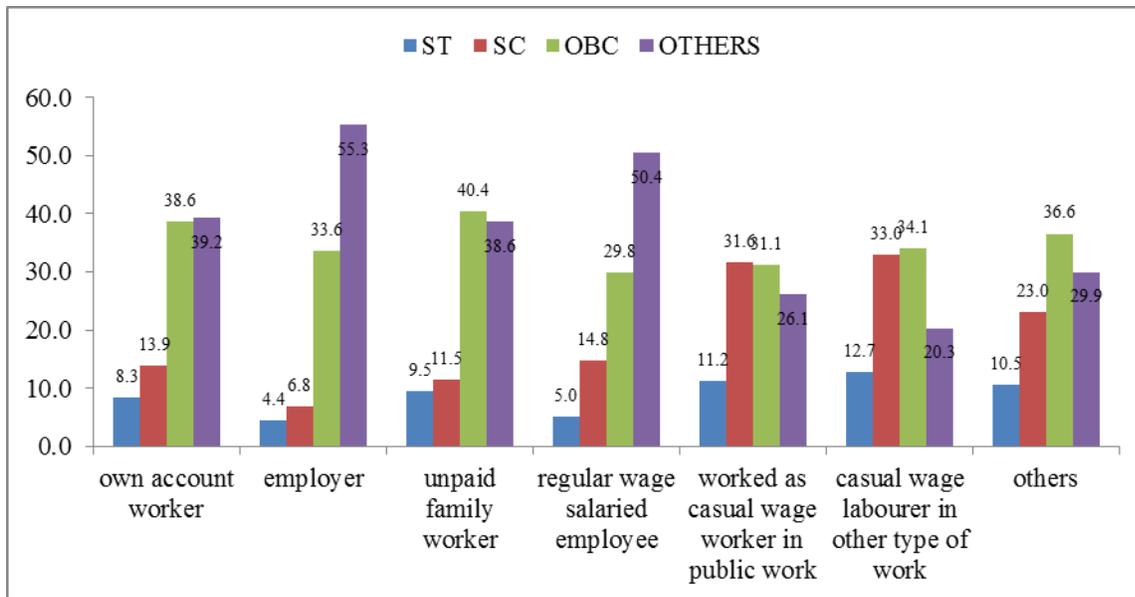
Figure 2 shows the male participation in principal work status by social groups in India. As seen from the figure, with achievement in higher education the gap between the social groups in participation of employment at different categories of principal work status also increased. The highest gap was observed between the caste ST and Others in the categories of principal work status such as own account worker, employer and regular wage salaried employee. Hence, it is quite evident that achievement in higher education further increased the gap between the social groups in terms of participation in principal work status. Although the caste OBC and SC showed higher participation in the categories of principal work status such as casual wage labourer in other type of work in both the case of with and without achievement in higher education, but analysis when considered with achievement in higher education showed the caste Others with highest participation.

Comparative analysis for males in terms of participation in principal work status between social groups with and without higher education in general showed not only the caste Others having higher participation but the gap also widened between the caste Others and the ST and SC caste with the inclusion of achievement in higher education. Figure 1.1 shows further refinement of male with achievement in higher education and their participation in principal work status by social groups in India during the period 2005-06.

Figure 1.1: Percent distribution of male principal work employment status by higher educated social groups in India, 2005-06
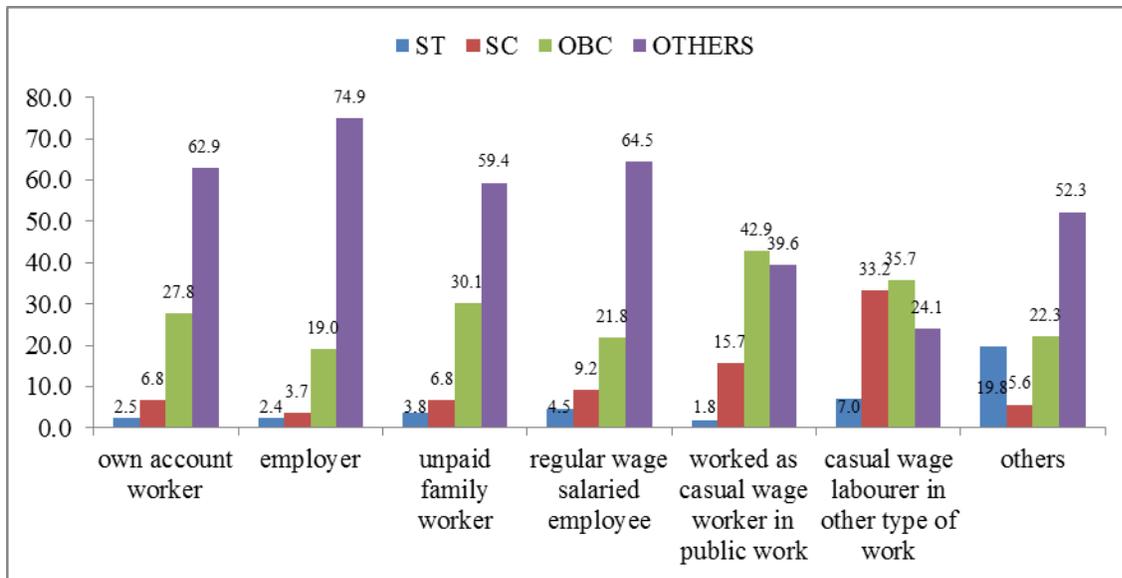
Figure 3 shows participation of females in principal work status by social groups. Although female participation is seen less than male in all the given categories of principal work status. However, in terms of distribution by social groups by different categories of principal work status shows the participation in employment is similar to that seen in Figure 2 of male principal work status. Except for the categories of principal work status such as own account worker, unpaid family worker, casual wage labourer, and others which showed a higher participation of the caste OBC and SC, the rest of the categories of principal work status showed the Others caste with highest participation.

Figure 3: Percent distribution of female principal work employment status by social groups in India, 2005-06
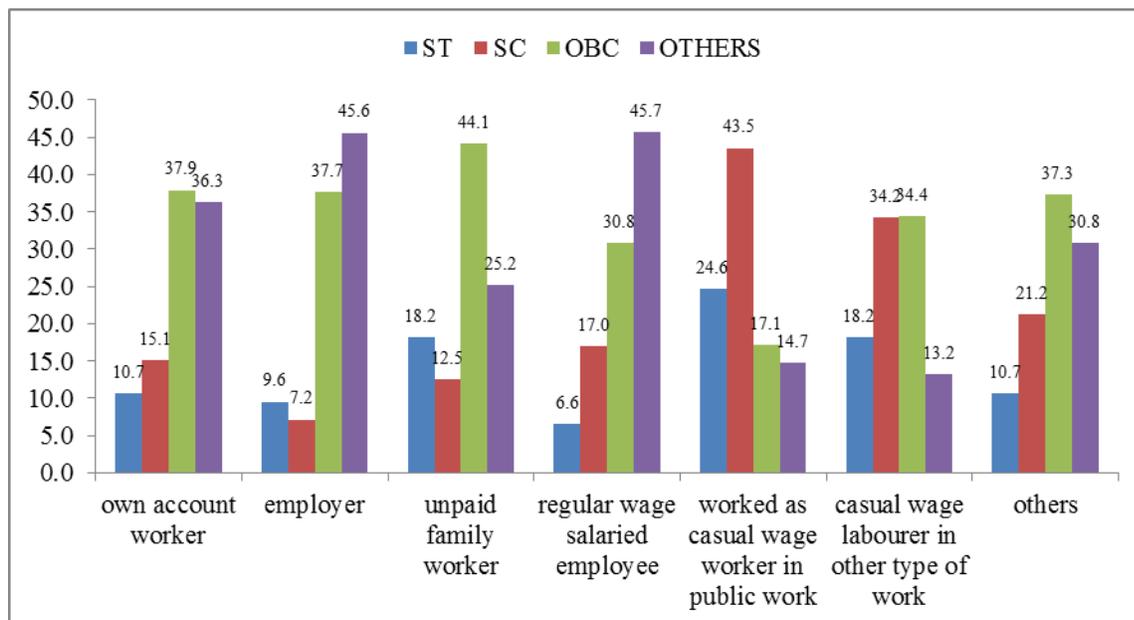
Figure 3.1 shows the participation of female with higher education in principal work status by social groups. All the categories of the principal work status showed the caste Others with high participation, the gap in terms of participation between the social groups increases considerably with the inclusion of achievement in higher education by social groups. Categories of principal work status such as casual labourer in public and other type of work showed almost negligible participation of the caste SC and ST and in turn a very high participation of the caste Others. The distribution of social group participation in the 3 which had shown caste OBC and SC with high participation as compared to the caste Others. Hence, with the inclusion of achievement in higher education the female participation from the caste SC and OBC in casual labour is negligible. Similarly for the others category in the principal work status the caste Others shows a high participation when taken into account the higher education of population.

Figure 3.1: Percent distribution of female principal work eployment status by higher educated social groups in India, 2005-06
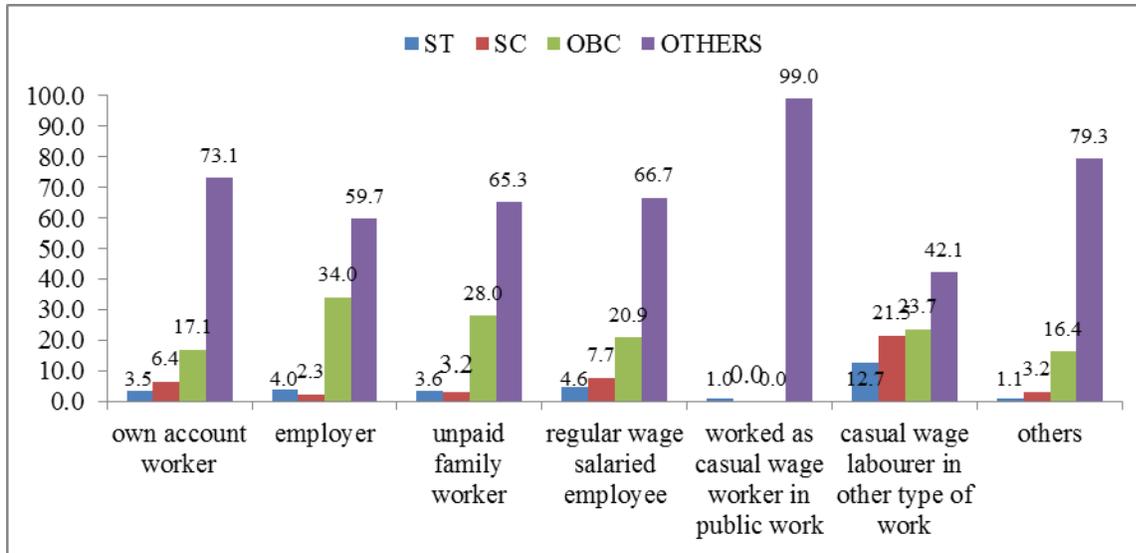
Table 1 presents the measures of inequality in employment by male and female and by social groups in India during the time period 2005-06.

Table 1: Inequality Measures in employment by gender and social groups in India, 2005-06.

Measures of inequalities	Male				Female			
	ST	SC	OBC	Others	ST	SC	OBC	Others
GradeI								
A.M	-3.43	-2.76	-1.82	-1.62	-2.57	-2.79	-2.62	-2.50
G.M	-0.09	-0.22	-0.27	-0.23	-0.44	-0.85	-1.30	-1.29
Difference	-3.34	-2.54	-1.55	-1.39	-2.13	-1.95	-1.32	-1.22
Grade II								
A.M	-0.93	-0.78	-1.34	-1.91	-1.25	-1.39	-2.02	-3.03
G.M	-0.29	-0.47	-0.84	-1.07	-0.33	-0.58	-1.08	-1.48
Difference	-0.64	-0.31	-0.50	-0.83	-0.93	-0.81	-0.93	-1.55
Theil Index								
Theil (between)	-0.01	-0.05	0.00	0.07	0.00	-0.03	-0.01	0.04
Theil (within)	0.77	1.51	3.85	4.71	-0.96	-1.66	-3.67	-4.27
Theil (between)	0.05	0.17	-0.01	-0.12	0.46	0.77	0.37	-0.10
Theil (within)	3.42	3.51	2.81	1.85	n	n	N	N

Note: 1. n = negligible value;
    2. A.M = arithmetic mean, G.M = geometric mean

The negative geometric and arithmetic means derived for both the sexes and by social groups in India implies below average participation rate in employment by social groups during the time period 2005-06. However, the females participation in employment was lower than males as evident from there lower mean values in both the grades of employment. Comparative analysis by grades of employment shows that the mean values for grade II type of

employment is higher than grade I among caste ST, SC and OBC implying higher participation rate in employment for caste ST, SC and OBC in grade II as compared with grade I type of employment. This also implies increase in the casualisation of labour. Whereas the caste Others showed a higher employment participation rate in grade I than grade II. The difference between arithmetic and geometric means 'difference of arithmetic and geometric mean by social groups' a higher level of mean difference is shown for caste ST and lowest level for caste Others in grade I type of employment indicating a higher participation rate of caste Others as compared to caste ST for both the sexes. The reverse trend is seen in grade II type of employment for males, with highest participation for caste ST and the lowest participation in employment for caste Others. However for female even in employment type grade II the highest participation is seen for caste Others and the lowest participation for caste ST.

Employment inequality between social groups by participation rate and analysed using theil index showed below average participation and positive contribution to the scale of equality for caste ST and SC in grade I and for caste OBC and others in grade II type of employment in males. The participation rate in grade I type of employment was lowest for caste SC and OBC and for caste Others, the participation rate was lowest in grade II type of employment. Within group inequalities analysis by gender showed that male participation rate is higher than females and is seen among all the caste group in grade I type of employment. In grade II type of employment the within group inequality was negligible and the total theil index after summing between and within group inequality showed value approximately same as the theil value for between group inequality due to negligible contribution of within group inequality.

Table 2 present, the participation in employment by gender by social groups with achievement in higher education for the time period 2005-06.

Table 2: Inequality Measures in employment by male-female with achievement in higher education and by social groups in India, 2005-06

Measures of inequalities	Male				Female			
	ST	SC	OBC	Others	ST	SC	OBC	Others
Grade I								
A.M	-0.62	-0.69	-0.56	-0.44	-1.57	-1.69	-1.84	-1.85
G.M	-0.16	-0.30	-0.49	-0.57	-0.17	-0.29	-0.71	-1.53
Difference	-0.46	-0.40	-0.07	0.13	-1.40	-1.40	-1.13	-0.32
Grade II								
A.M	-2.86	-2.16	-3.03	-4.27	-3.72	-3.82	-4.89	-5.43
G.M	-0.25	-0.44	-1.12	-2.88	-0.25	-0.43	-1.35	-4.00
Difference	-2.60	-1.72	-1.90	-1.39	-3.47	-3.39	-3.54	-1.43
Theil index								
Theil (between)	0.00	-0.02	-0.02	0.04	0.01	0.01	0.00	-0.02
Theil (within grade I)	0.07	0.15	0.44	1.19	-0.19	-0.32	-0.88	-2.87
Theil (between)	0.04	0.39	0.12	-0.22	0.16	0.24	0.02	-0.20

Theil (within grade II)	0.14	0.65	0.71	0.48	-0.50	-0.84	-0.93	-1.77

Note: n = negligible value

A.M = arithmetic mean, G.M = geometric mean

Analysis of social group inequalities for males in achievement in higher education and participation rate in employment revealed negative geometric and arithmetic mean for all caste group. Comparatively, caste ST, SC and OBC showed lower value of mean in grade I type of employment compared to the caste Others whereas reverse is seen in grade II with lowest participation rate for the caste Others when compared with caste ST, SC and OBC . However, analysis of females with achievement in higher education showed that participation rates in both the grades of employment for caste Others is lower than caste ST, SC and OBC. The difference in ratio of arithmetic and geometric mean shows higher level of difference in grade I employment as compared to grade II type employment for both male and female.

Assessment of between group inequalities by social groups showed below average participation and negative contribution to the scale of equality of caste SC and OBC in both grade I and grade II type of employment. Notably, the female from caste Others with higher education and participation in employment showed below average participation and negative contribution to the scale of equality whereas the caste ST, SC and OBC showed positive contribution to the scale of equality with above average participation in employment.

Analysis of within group inequalities between male and female with higher education and participation in employment showed negative contribution to the scale of equality with below average participation of females in both the grades of employment as compared to males.

Summary

The primary objective of this paper was to study the participation of social groups by different categories of principal work status and to analyse the employment pattern by social groups achieving higher education by gender using NSSO data from the period 2005-06.

Principal work status by gender showed varied result for the Others caste. The participation of male from Others caste were lowest in the categories of casual laborer but was highest for female in the same category. Thus the Others caste representation in employment type casual labourer are mainly females.

The difference between the social groups in terms of participation of population further increased with the inclusion of population with higher education. Consistently, the gap between the caste Others and ST, SC, OBC further widened in participation in employment when higher education is taken into consideration.

Genderwise analysis showed that among males, the highest participation of principal work status is in the category of employer. With achievement in higher education the gap between the social groups in terms of participation in different categories of principal work status increased and was more prominently seen for males. Employment inequality between social groups and in males by participation rate showed below average participation of caste ST and SC in grade I and for caste OBC and others in grade II type of employment. Within group inequalities analysed by gender showed that males participation rate is higher than females and is seen among all the caste in grade I type of employment.

Analysis of females with achievement in higher education showed that participation rate in both the grades of employment for caste Others is lower than caste ST, SC and OBC. Notably, the female from caste Others with higher education and participation in employment showed below average participation in employment during the period 2005-06.

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