

INDIAN LABOUR MARKET:
A REGIONAL ANALYSIS FOR DIFFERENT SOCIAL GROUPS

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DECLARATION

I, Amanpreet Kaur, certify that the dissertation entitled "*Indian Labour Market: A Regional Analysis for Different Social Groups*" submitted by me as partial fulfilment of the requirements for the degree of the Master of Philosophy is an original work and has not been submitted, in part or in full, for the award of any other degree of this university or any other university.

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List of Abbreviations

CAGR	Compound Annual Growth Rate
CPI(AL)	Consumer Price Index (Agricultural Labours)
CPI(IW)	Consumer Price Index (Industrial Workers)
GOI	Government of India
IHDS	India Human Development Survey
ILO	International Labour Organisation
LFPR	Labour Force Participation Rate
NSS	National Sample Survey
NSSO	National Sample Survey Organisation
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
OBC	Other Backward Classes
UPSS	Usual Principal and Subsidiary Status
SC	Scheduled Caste
ST	Scheduled Tribe
WFPR	Work Force Participation Rate

Chapter 1

Introduction

1.1 Statement of the Problem:

Labour markets have been recognised as the least homogenous and least perfect markets (Kannan, 1994 and Papola, 1968). The dominant character of labour market is segmentation (Loveridge and Mok, 1979).¹ According to Kundu and Mohana (2009), “industrial and social barriers have resulted in labour market segmentation which has come in the way of dissemination of the benefits of growth to workers in backward region, small town, rural area and underprivileged socio-economic categories of population.”

The wage inequality on the other hand can be understood by two measures: first is the levels of education and skill based differences in wages and second is based on inter-sectoral variations in growth performance (Abraham, 2007). Presently, in rural India, the increase in the landlessness and decline in employment in agricultural production (due to rise in mechanisation etc.), has also changed the very characteristics of rural manual workers which otherwise was primarily involved in agricultural and allied activities. In recent times, they are now participating in both agricultural and non-agricultural manual labour (Ramachandran, Rawal and Swaminathan 2009). However, the participation of workers has increased in the construction, manufacture and services sector. (Lanjouw and Shariff 2004).

In the Indian context, access to employment is not just determined by educational qualifications or capabilities but factors such as sex, caste, agricultural development etc. also play a vital role (Jha 2006). Ironically, in India, women lag behind in educational attainments and to a large extent are restricted entries into the labour market. Like women, dalits and schedule tribes are also far behind in the educational achievements and in employment opportunities. However, the discrimination and exclusion against dalits, tribes and women still exists in both formal and informal labour market.

¹ Cited in Kannan, 1994

Apart from less female work force participation, discrimination and exclusion of deprived sections in the labour market, the other striking feature of Indian labour market is high wage inequality (Das, Chandra, Kochhar and Kumar, 2015). Since India's independence, these issues have received attention from both social and economic prospective. There has been special focus in planning in order to improve the labour market structure, i.e., the programme such as compulsory elementary education for every child, reservation for deprived groups in different employment sectors, special schemes etc were started in order to improve the labour market structure (Madheswaran and Attewell, 2007). Despite these measures, after almost seven decades of independence, large sections of the population are unable to avail any benefits from high growth rates. Certain sections of society such as women, schedule castes and tribes, not only face inequality but have also reconciled with the consequences of it.

India is among the countries which have higher levels of inequalities like income inequality, wage inequality etc. (Rawal and Swaminathan, 2011). The concentration of income and wages is in fewer hands, and are mostly with the upper castes (Madheswaran and Attewell, 2007 and Mukherjee and Majumder, 2011). Both human capital endowment (education and skill development) and discrimination are equally important for the explanation of any type of inequality. A study by Madheswaran and Attewell (2007) on caste discrimination in Indian urban labour market shows that wage differences among dalits/tribes and non-dalit/tribe group is mostly because of human capital endowment but 15 per cent of wage differences are due to discrimination against dalit/tribes. This study also points out that occupational discrimination is more noticeable than wage discrimination because dalits/tribe do not have equal access to jobs like non dalits/tribes groups (*ibid.*).

Mukherjee and Majumder (2011) in their study on education and inequalities explained that with an increase in the education level the wage difference between male and female workers decreases. In other words, the education attainment among women reduces the discrimination against them in labour market (*ibid.*). Based on the above mentioned arguments, the purpose of this study is to understand the role of education in determining wages and employment status for different social groups and gender in both rural and urban areas.

1.2 Objectives:

The objectives of this study are following:

- To explore the pattern of work force participation and disparity across different states in India.
- To analyse the pattern and growth of wages among different social groups along with analyses of inequality in the wage distribution
- To analyse the role of education in the determination of wages.
- To examine the factors responsible for wage inequality.

1.3 Research Questions:

For above objectives, this study will focus on following research questions:

- How has the pattern of work force participation changed across India from 2004-05 to 2011-12?
- How the wages of different social groups has been changed from 2004-05 to 2011-12?
- What is the role of education in the determination of an individual's wage?
- How the wage inequality can be explained in the labour market?
- Does wage inequality occur in inter social group as well as intra social group?

1.4 Databases:

The prescribed study is based on secondary data. The data sets used for the study are following:

National Sample Survey Organization (NSSO, hereafter): NSSO, collects information on employment and unemployment situations in India on quinquennial basis since 1972-1973. These surveys are conducted in whole country on sampled households.² For this study, unit level data of 61st round (July 2004 – June 2005, 2004-05) and 68th round (July 2011 – June 2012, 2011-12) of employment and unemployment survey is used. Indian Human Development Survey:

² Households: A household is defined by using Census of India 1971 definition which states that "a group of persons who commonly live together and would take their meals from a common kitchen unless the exigencies of work prevented any of them from doing so" (for details: http://censusindia.gov.in/Data_Products/Library/Indian_perceptive_link/Census_Terms_link/censusterm.html).

Individual level data of 2nd The India Human Development Survey (IHDS, hereafter) round (2011-12) has been used.

These both databases give a wide range of information regarding key indicators of labour market such as employment status (both daily and weekly status), type of industry, type of occupation, work days, wages, unemployment etc., along with household characteristics such as household size, household type, religion, social group etc. and individual characteristics that include age, sex, general education level, technical education level, marital status etc.

NSSO rounds on employment and unemployment collect detailed information on workers who are either self-employed or employed on casual or regular basis. The worker who works in household enterprises as own-account worker, or as an employer or as helper, are included in the category of self-employed; the worker who does not have certain job or employment, and his or her occupation, wages etc are also not fixed, is generally included in the casual work force; and the worker who is employed either on regular wages or salaries are considered as regular employees by NSSO (GOI 2014). NSSO data on workers is collected for three reference periods, daily, weekly and yearly. Further, information is collected on "usual principal activity status" and "usual subsidiary economic activity status" by using major time criteria for a year prior to the date of survey and based on which it is determined whether a person is part of work force or not (GOI 2014).³ Therefore, usual principal and subsidiary status (UPSS) is calculated using usual principal activity status and usual subsidiary economic activity status, where if a person has been identified as unemployed or out of work force in usual principal activity status then his/her usual subsidiary economic activity status is used for determining UPSS of that individual (GOI 2014). In IHDS data, an individual who worked for more than 240 hours in an economic activity in last year, is considered in the work force.

However, NSSO collects information on both cash and kind wages for workers who are either employed on regular or casual basis, i.e, the information on other earnings such as business,

³ If a person is involved in any economic or non-economic activity for most of the time in year then his/her status is recorded in usual principal activity, but usual subsidiary economic activity status, is collected only for economic activities performed by a person for at least 30 days in a year. "Any activity which adds value to national product" is considered an economic activity (GOI 2014).

bonus, pensions, etc. are not collected by NSSO (GOI 2014). On the other hand, along with information on wages of casual and regular workers, IHDS collects data on business earnings, agricultural incomes, bonus, pension etc.

1.5 Methodology:

For the purpose of study, different variables of NSSO and IHDS are used, such as sector, state, social group, gender, general education level, usual principal and subsidiary status of employment (UPSS), weekly wages, total working days in a week and daily wages, total earning etc.

By using NSSO data, work force participation is calculated on the basis of Usual Principal and Subsidiary Status (UPSS) of employment. Firstly, work force participation and wages are calculated for population of 15-59. All wages are calculated from the age group of 15-59 years. NSSO gives information of the wages received in a week for regular employees and casual workers only. So the wages are calculated for these two types of workers. Some important indicators of labour market are as follows:

Labour Force Participation Rate (LFPR)

$$= \frac{\text{Number of Employed Persons} + \text{Number of Unemployed Persons}}{\text{Total Population}}$$

$$\text{Work Force Participation Rate (WFPR)} = \frac{\text{Number of Employed Persons}}{\text{Total Population}}$$

$$\text{Unemployment Rate} = \frac{\text{Number of Unemployed Person}}{\text{Labour Force}}$$

The average daily wage of any particular group (for male, female etc.) is calculated by the given formula

$$\text{Average Per Day Wage} = \frac{\text{Total Recieved Wages in a Week}}{\text{Total Working Days in a Week}}$$

The wages of the year 2004-05, have been converted to 2011-12 prices by using the consumer price index. Consumer price index of agriculture labourers (CPIAL) (base year 1986-97) is used for wages of rural areas by which wages of 2004-05 are converted to 2011-12 prices and consumer price index of industrial workers (CPIIW) is used for wages of urban areas. However, in case of CPI (IW) data of 2004-05 and 2011-12 wages are available with two different base years and these are base years 1982 and 2001 respectively, so in order to make it comparable, the base year of 2001 is converted to the base year of 1982 by using the centre wise linking factors which are provided by labour bureau. Further, States level conversion table of CPIAL and CPIIW is used to convert the wages of different states to 2011-12 prices.

The calculation of wage growth is calculated as compound annual growth rate (CAGR) by using the following formula:

$$CAGR = \left(\frac{EndingValue}{BeginningValue} \right)^{\left(\frac{1}{TotalNumberofYears} \right)} - 1$$

For analysing wage inequality, Lorenz curve and Gini coefficient are used. Lorenz curve is a graphical representation of cumulative proportion of income held by cumulative proportion of persons. The difference between Lorenz curve and line of equality (45 degree line) represents the inequality of income or wage. And Gini is an aggregate numerical measure of inequality, which ranges from zero to one. Zero in Gini coefficient represents perfect quality and one is for perfect inequality.

For regional analysis, all states are divided in two categories on the basis of household sample size of different social group in both NSSO rounds. These categories are follows:

a) 1st category: This category includes those states, which have minimum 200 hundred household for every social group for both NSSO rounds. Based on this method, 12 states are included in this category and the states are Rajasthan, Tripura, Assam, West Bengal, Jharkhand, Odisha, Chhattisgarh, Madhya Pradesh, Gujarat, Karnataka, Maharashtra and Andhra Pradesh.

b) 2nd category: This category includes those states, which have 200 sample household of schedule castes, backward class and others. 8 states are included in this category which includes Jammu & Kashmir, Himachal Pradesh, Punjab, Uttaranchal, Haryana, Uttar Pradesh, Bihar and Kerala.

To understand the role of education on wages Mincerian approach of wage determination is used in IHDS data. This approach takes education as a key indicator for wage determination.

Mincer (1958 & 1970) has explained the role of education in wage determination by using logarithm of wages as a function of years of schooling and experience. This concept is based on human capital concept. Mincerian approach is based on two basic assumption, these are: 1) every individual is identical; however, the only difference is in the sphere of education and experience. In other words, it means that every individual possesses equal ability and equal opportunity, 2) and there is no direct cost for schooling, but the cost of one's addition year of schooling, is forgone income for that one year.

Mincer further has explained that the earning after 't' years of schooling is equal to the earning of 't-1' years of schooling plus the cost of schooling— times the rate of return on investment in schooling. Given below is the mathematical form of understanding Mincerian approach.

$$W_t = W_{t-1} + rC_t \quad (1)$$

Explaining further the mathematical form, W_t is earning after t year of schooling, W_{t-1} is t-1 earning after t-1 year of education, r is rate of return on investment in schooling and C_t is cost on education. Cost of education is defined by opportunity cost of not entering in any job by any individual.

The used form of Mincerian equation in the study can be explained in the following method:

$$\ln W_i = \beta_0 + \beta_1 S_i + \beta_2 \text{exp}_i + \beta_3 \text{exp}_i^2 + \epsilon_i \quad (2)$$

In this equation, $\ln W_i$ is natural logarithm of i individual's earning, S_i is years of schooling and exp_i is experience in years, exp_i^2 is square of experience and ϵ_i is an error term. Equation (2) explains that earning of any individual is a linear function of years of schooling and it is both linear and quadratic function of experience.

The given model is estimated by use of OLS technique for estimations in this study. With all these concepts and formula some other simple statistical methods like, mean, median, percentage etc. are also used in calculations.

1.6. Organization of the Chapters:

This study is an analysis of the role of education in work force participation and wage determination. The study is organized in seven chapters. First chapter explains the statement of problems, objectives, database and methodology. Second chapter is a detailed review of existing literature related to education, employment, and wages.

Third chapter analyses the work force participation among different social group by gender, for both rural and urban areas. The changes in the work force participation have been analysed over the years from, 2004-05 to 2011-12. The chapter in particular explains the female work force participation and unemployment.

Fourth chapter is an analysis of wages and wage inequalities among different social groups, among employment types. Further these wage inequalities are explained by education levels in both rural and urban areas.

Fifth chapter presents the analysis of work force participation, wage and wage inequality across different states and provides information on state disparities for these indicators. Sixth chapter is an analysis of the role of education in determination of any individual's wage. Seventh chapter concludes the finding of this study along with discussion on role of education in labour market factors.

Chapter 2

Literature Review

The research study mainly discusses three basic areas, and these are labour markets, discrimination and exclusion in labour and importance of education in the labour market. There is a vast literature on determinants of labour market, the major issues that have been discussed in the literature include the following:

- 1) Structure of labour markets
- 2) Discrimination and exclusion for social groups in labour market
- 3) Role of education in labour market determinants

Every market has its own special characteristic and mechanism. And labour market has a distinctive feature of heterogeneous labour supply which makes labour market most imperfect and least homogeneous market (Papola, 1968). This imperfection is higher in case of developing or underdeveloped countries. For a developing country like India which has different geographical regions, it is not possible to have a single national labour market. Since states have high variation in land and natural resources, high variation in population structure and geographical condition, along with difference in the economic growth of primary, secondary, tertiary sectors, so therefore India has more regional or local labour market rather than one national market (Papola, 1968).

Though, with the implementation of policies of liberalisation privatisation globalisation, the GDP growth has increased in India. But at the same time, there is decline in the employment growth with this increase in the GDP growth. The basic reason behind the decline in the employment growth is changes in the policy along with the technology changes in the of the production process (Sharma, 2006). Due to mechanisation, production process is now more capital intensive rather than labour intensive so employment has decline in the recent time (Sharma, 2006).

Due to the unbalanced economic growth among different regions in India, there are high wage differences among these regions and due to differences in wages there is difference in the work force participation as well (Narayan, 1958). The mobility of labour force from one region to another is because of unbalanced economic growth, wage difference and difference in the labour supply and demand (Narayan, 1958).

Kannan (1994) pointed out that labour markets in India are also segmented on the basis of caste and gender. There is hierarchy of the job according to this segmentation such as good jobs for upper castes and menial jobs for lower castes. On the other hand, population from lower caste have less options to choose their occupation. And people who belongs to lower caste join unstable and unorganized sector jobs and upper caste people join more stable and organized sector jobs. Gender base segmentation is exclusion of female from certain jobs and it can be clear seen in the higher participation of rural female in the agriculture sector. This gender and caste based segmentation, also happen because of lack of education among population from lower castes and females. The lack of education is a result of historically discrimination and exclusion of these group to access to education. This caste based segmentation also affects the distribution of earning and thus affects the income levels of individuals. So market segmentation not only effects the working condition of the individual but his/her income level as well (Kannan, 1994).

Before the discussion of on discrimination and exclusion of social groups, it is important to understand the categories of schedule castes and schedule tribes. In ancient India, people were divided as per their caste and religion and also by the traditional occupation (Shukla 2002). Historically, caste as a social system is outcome of hostile interaction of centuries within the *varna* system, *gotra* system and classes of ancient India. This caste system divide people into different groups and communities and assigned rights to people in graded and unequal manner. These rights become narrower and narrower the farther down the hierarchical ladder of the caste system. This caste system imposed some regulation and restrictions on certain castes and communities, and they assigned some occupation which were considered as impure and polluting occupation. Because of these occupations the certain people from certain group are considered as impure and untouchables. This untouchability exclude them from many social, economic,

political and civil rights. These deprived sections were discriminated against the upper section of the population (Ambasht, 2002 and Nancharaiah, 2002).¹ The people who not only influenced by this caste system but also bear the consequence of this caste system like lack of infrastructure, lack of agriculture land, not equal access to natural resources, geographical isolation, are mostly from dalits and adivasis communities.²

At the time of independence, to safeguard these certain castes and communities and accelerate their socio economic development, they are recognized as schedule castes and schedule tribes in Indian constitution. In Indian constitution's article no. 341 and 342 identified many castes and tribes and groups within these as schedule castes and schedule tribes.³ Schedule caste is an official term for dalits and Schedule tribe is an official term for adivasis.

Indian constitution writes equality of opportunity and justice as a basic right in its constitution. It gives equal rights to every person of the nation and makes law against the practice of caste based (or any other base) social, political and economic discrimination and exclusion. Indian constitution gives the reservation to these hierarchal lower (deprived) caste for their empowerment and to reduce the effect of historical discrimination of these castes.

Ensuring the equal opportunity, equal access, law against the discrimination of all types, reservation for dalits and tribes in many fields, these castes are still lagging behind in development and empowerment as compare to other castes. Schedule tribes and schedules castes mostly population is still concentrated on primary occupation (Deshpande, 2001). There is huge gap in the wages of schedule caste/ schedule tribes and other castes (Agarwal, 2013). These two communities are still concentrated on the more casual and less paying occupation and population from higher castes are doing more secure, more prestigious and higher paying jobs (Deshpande, 2011).

However, the population from schedule castes and schedule tribes still does not have equal opportunities to access the educational facilities. According to census of India, 2011 literacy rate

¹ See also Ramachandran and Swaminathan (2014).

² <http://tribal.nic.in/Content/DefinitionpRofiles.aspx>.

³ <http://ncst.nic.in/>.

of dalits and tribes was around 66 per cent and 59 per cent respectively which is lower than all India literacy rate (74 per cent) (Agarwal 2013). And the main reason behind this backwardness, is traditionally denial of access to resources, access to education for these castes, because of their low position in Indian caste system. From ancient time to contemporary period, caste system in India is continuously playing an important role to decide the social and economic condition of these caste (Agarwal, 2013). Untouchability is still in practice in India, especially in rural areas (Agarwal, 2013).

This study focus on the discrimination of schedule tribes and schedule caste against others castes and of female population against male population. There are two types of concept which are used against these deprived groups, one is discrimination and another is exclusion. Exclusion is an inability of an individual based on caste to participate in the basic political, economic and social function of society. And discrimination is a particular type of exclusion in which there is restriction on a special group of people to equal access to opportunities imposed by certain groups of society. Both discrimination and exclusion were used to bound some specific group of people into restriction and denial of development.

If any specific individual is discriminated against other individuals on some other basis rather than any objective productivity measure and do not have equal opportunities in labour market, then there is discrimination in the labour market. Tilak (1980) pointed out that there are two major types of discrimination in the labour market, one is employment discrimination and another is wage discrimination. Employment discrimination is present when any specific occupation is given to any specific group and denied to any specific group on some irrelevant productivity characteristics of individual (Tilak, 1980). Wage discrimination occurs when two individuals in same the occupation have wage differences not on the basis of productivity difference but on some other individual characteristics and in Indian labour market these basis are social group, gender and place (Tilak, 1980).

There are many theories about the discrimination but these are the three basic theories of discrimination, first is given by Becker (1957), second is given by Thurow (1968) and Bergmann

(1971) and third one was given by Marxian economist Baran and Sweezy (1966).⁴ According to first theory, discrimination is a result of employer's taste to discriminate any specific group. According to second theory there is some dominant group in the market which makes discrimination possible for other group because of their dominant power. Third theory explains that discrimination occurs because there is difference in the bargain power of the individual or union in the market (Tilak, 1980).

Because of discrimination there are lower chances for equal access to opportunity for a job, it also prevents their capability formation and then limit their participation in labour force. Wage difference definitely occurs between different occupations because of different skill requirement. Apart from these wage difference, spatial and inter personal wage difference are quite large in Indian labour market. The reason behind these type of wage difference is partial human capital endowment and more often is low wages for any specific group in a form of discrimination is also common (Mukherjee and Majumder, 2011)

Madheswaran and Attewell, 2007 pointed out that the caste discrimination is more effective in the rural market than urban market. Rate of return of education is lower among SC and ST as compare to others social group. The earning differences between SC-ST and other social groups are because of human capital endowments but 15 per cent of these difference are because only of discriminations (Madheswaran and Attewell, 2007). Access to employment differences are very much considerable in the private sector jobs and this is because of unequal access to job opportunities. (Madheswaran and Attewell, 2007)

Tilak, 1980 pointed out that unemployment exists more among women than in men at every level of education. Female discrimination is because of immobile female population with their supply curve relatively inelastic. There are two main reasons behind this: one is lack of appropriate and satisfactory job opportunity for women and second is discrimination in job market on false assumption based on women's productivity basically prejudice against women (Tilak, 1980).

⁴ Cited in Tilak, 1980.

The work force structure has changed in India over time and work force from agriculture sector has been shifting from agriculture to service sector and casual work as the productivity in agricultural sector has gone down along and also wages in agriculture are low (Abraham, 2009). There is also change in the wages of regular and casual workers over time and these changes can be explained by the human capital endowment or by inter sectoral developments (Abraham, 2007).

Historically lower castes were out of reach from the education and education was only meant for higher castes. This backwardness in the education effected the lower castes in various ways like in income levels, economic development, wages, work force participation, health issues, social development etc (Thorat, 2009).⁵

As it is discuss by many scholar that education is a important source to improve the social and economic condition of every deprived group like schedule castes and schedule tribes because these deprived does not have any other source to move on an upper ladder of economic status (Thorat, 2009). Education help to ensure that the benefits of growth are experienced by all. Even after the implementation of right to education and other education oriented schemes deprived section are still lagging behind in the gain of education. Because there is discrimination and exclusion in the access to education also.

As Nancharaiah (2002), points out that in the first five years of planning education was given special emphasis on since it was one of important indicator of the development, he further writes, “Fifty per cent of the welfare funds meant for social and economic development of the dalits went to their education ... between 1961 and 1991, the literacy rate rose from 10 per cent to 37 per cent among the SCs (Scheduled castes), from 8 per cent to 29 per cent among the STs (Scheduled tribes), and from 37 per cent to 57 per cent for the rest of the population. Despite the increase in literacy, the gap between SC/STs and the rest has also been increasing.” The similar case was true for the women also.

⁵ Dubey and Thorat (2012) and Dubey and Desai (2011).

According to Thorat (2009) the schedule caste and tribe students gradually drop-out before completion of the elementary education. He pointed out that " "Of all literate SCs, only 16.3 per cent were educated up to the middle or upper primary classes and another 15 per cent were educated till the secondary and higher secondary levels. Furthermore, only 3.1 per cent were fortunate to graduate from college ... A drastic decline was noticeable in the 15-19 and the 20-24 years age groups." His study suggests that the main causes for high rate of never enrolment and high drop-out are poverty and discrimination. The students from dalit and tribal sections, face discrimination from upper caste students and teachers (Nambisaan 2010).

A study on segmented schooling by Desai, Adams, and Dubey (2010) suggests that the upper caste teacher humiliates the dalit students and they did not expect good academic achievements from dalits students. Another study by Nambissan (2010) on exclusion and discrimination in schools explains that dalit students face discrimination at every moment in their class and school, like they are not allowed to sit with upper caste student, not allowed to drink water from same source, not allowed to seat and eat with upper caste students and they have to face their comparison with upper caste students in every school activity. This type of behaviour towards students demotivate the student to continue his/ her studies. So discrimination is still a cause for discontinuity of education dalit students. And it effects their learning outcome also.

Literature suggests that the 76 per cent schedule caste students goes to low grade colleges for higher studies (Suma Chitnis, 1972). A study by Nambissan (1996) on equity in education points out schooling of dalits children in India tells the inequality of availability of school, school enrolment, private expenditure in educations. So here it is important to understand the role of a caste in access to education for a student. The study is a focus on the effect of caste on of access to education and analyzing the outcome of these effects.

Despite the fact that there is discrimination in the access to education and difference of education endowment is also increasing, still education attainment is important for human development. In this scenario it is important to understand the impact of education on access to labour market determinants for deprived sections.

Pattern and Changes in Work Force Participation in India

3.1 Introduction

The objective of this chapter is to understand the structure of Indian labour market. This structure is studied in the order to understand the status of different social groups and the role of these social group in the labour market. As, in India the social group of a worker not only plays an important role in while making the decision of enter into the labour market, but also have had impacts on choice of occupation. This chapter is an analysis of the current situation of work force participation of different social groups and also the impact of education on work force participation is evaluated. The chapter further examines the changes in the patterns of work force for the period from 2004-05 to 2011-12.

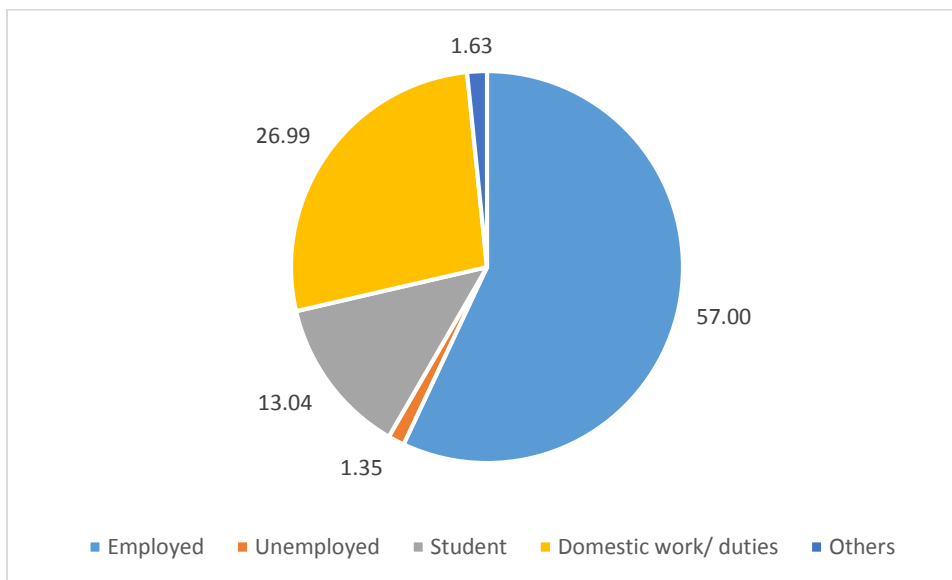
As mention in the introduction (Chapter 1), the data of employment and unemployment survey conducted by National Sample Survey Organization (NSSO) is used in this chapter. The unit level data of 68th round (July 2011- June 2012, 2011-12) and 61st round (July 2004- June 2005, 2004-05) is used to study the above mention objectives. Both, work force participation rate and labour force participation rate, are indicators of employment status. Work force participation rate represents the ratio of currently employed persons with the total population of specific age group. On the other hand, labour force participation rate also include unemployed along with employed people and it is a ratio of their sum (i.e., of employed and unemployed) with the total population. For the purpose of this study people belong to age 15-59 years are taken into account. All calculations in this chapter are based on Usual Principal and Subsidiary Status (UPSS) of occupation.

3.2 Current Employment Status:

In India, 57 per cent people are currently employed and 58.35 per cent people are in labour force participation (Table 3.1). The difference between rural and urban work force participation rate is very high. For rural India work force participation rate is 59.76 per cent which is almost 9 per cent higher than urban work force participation rate where it is 50.75 per cent. The work force

participation rate is higher among men in comparison to women. Partly, the reason behind this is the involvement of higher female population in domestic duties/work which is not considered as work in the official statistics of India. Secondly, the proportion of female student in educational institution is lower than their male counterparts which is also partly reason behind their low participation in the labour force.

Graph 3.1 *Share of population according to their usual principal and subsidiary status, for age group 15-59 years, in 2011-12, in per cent*



Source: Employment and unemployment survey, NSSO, 2011-12.

Among different social groups, STs have the highest work force participation rate followed by SCs, OBCs and then others. The difference between male work force participation rate of different social group, is comparatively lower than the difference of female work force participation rate. Graph 3.2 clearly shows the difference between the work force participation in male belonging to ST and others social groups, i.e., ST male have 84.71 per cent work force participation whereas male from others social group have 79.11 per cent. The proportion of SCs male and OBCs male in the work force participation is higher than other male as well. Similarly, in case of female work force participation, the proportion is much higher for female belonging to ST category as comparison to female belonging to others category. In other words, 51.83 per cent of female from ST category are part of work force participation whereas in case of female from others social group, work force participation rate is only 32.28 per cent which is lowest

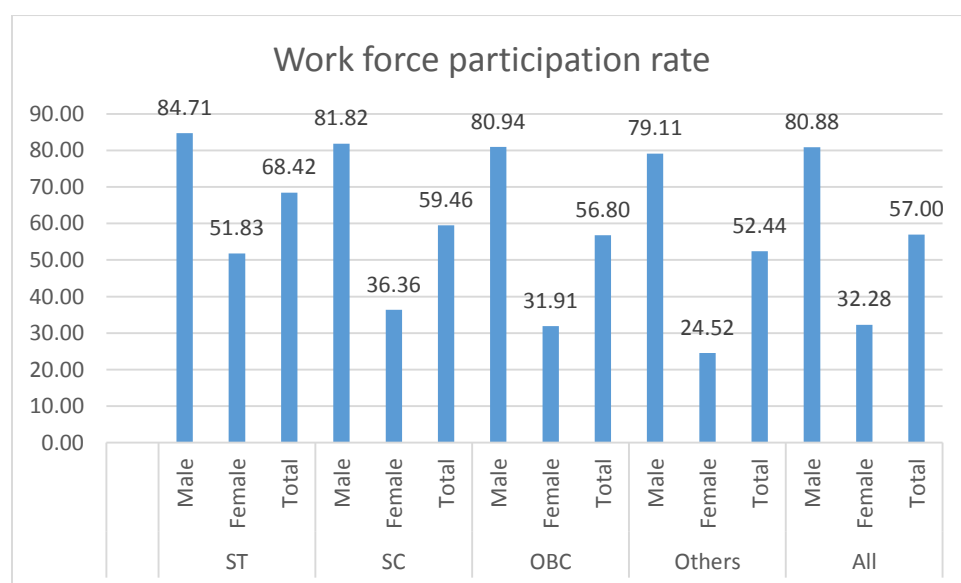
among all social groups. In case of the female from dalit and OBC category work force participation rate is respectively, 36.36 per cent and 31.91 per cent.

Table 3.1 *Distribution of rural and urban population by usual principal and subsidiary status, for age group 15-59 years in India, 2011-12, in per cent*

Area	Sex	Usual principal and subsidiary status					
		Work force participation	Unemployed	Students	Domestic worker	Others	Labour force participation (1+2)
Rural	Male	81.99	1.55	14.40	0.39	1.66	83.55
	Female	37.15	0.66	9.66	51.16	1.36	37.81
	All	59.76	1.11	12.05	25.56	1.52	60.87
Urban	Male	78.44	2.53	16.66	0.26	2.12	80.97
	Female	20.98	1.22	13.74	62.43	1.63	22.20
	All	50.75	1.90	15.25	30.21	1.88	52.65
Total	Male	80.88	1.86	15.11	0.35	1.81	82.74
	Female	32.28	0.83	10.89	54.55	1.44	33.11
	All	57.00	1.35	13.04	26.99	1.63	58.35

Source: Employment and unemployment survey, NSSO, 2011-12.

Graph 3.2 *Work force participation rate by different social groups for age group 15-59 years, in 2011-12, in per cent*



Source: Employment and unemployment survey, NSSO, 2011-12.

The work force participation among all social groups, has larger differences among male and female workers in rural areas as compare to urban areas (tables 3.2 and 3.3). The change in the proportion of male workers in difference social groups are inversely related to their enrolment in school and similar was the case for female workers. Therefore, the data points out that changes in the pattern of work force are not just affected by the labour market but other factors such as education, domestic work etc. have also greater impact on it.

Table 3.2 *Distribution of population belonging to age group 15-59 years, by usual principal and subsidiary status , for social groups and sex in rural India, 2011-12, in per cent*

Social group	Sex	Usual principal and subsidiary status					
		Work force participation	Unemployed	Students	Domestic worker	Others	Labour force participation (1+2)
ST	Male	86.02	1.15	10.76	0.70	1.37	87.17
	Female	54.96	0.65	7.13	35.92	1.33	55.62
	All	70.51	0.90	8.95	18.29	1.35	71.41
SC	Male	82.72	1.79	12.91	0.38	2.20	84.51
	Female	39.87	0.46	9.03	49.42	1.22	40.33
	All	61.53	1.13	10.99	24.63	1.72	62.66
OBC	Male	81.55	1.50	15.04	0.37	1.54	83.05
	Female	36.00	0.69	9.58	52.31	1.43	36.68
	All	58.96	1.10	12.33	26.13	1.48	60.05
Others	Male	80.41	1.63	16.09	0.31	1.56	82.04
	Female	28.99	0.77	11.48	57.37	1.38	29.76
	All	54.97	1.21	13.81	28.53	1.47	56.18
All	Male	81.99	1.55	14.40	0.39	1.66	83.55
	Female	37.15	0.66	9.66	51.16	1.36	37.81
	All	59.76	1.11	12.05	25.56	1.52	60.87

Source: Employment and unemployment survey, NSSO, 2011-12.

It is important to note that both the employment indicators, i.e., the work force participation rate and the labour force participation rate, have shown a decline for male and female workers both in rural and urban areas. From 2004-05 to 2011-12, the work force participation rate has declined for male and female in both rural and urban areas (tables 3.3 and 3.4). This was the scenario for all the social groups (table 3.4).

Table 3.3 *Distribution of population belonging to age group 15-59 years, by usual principal and subsidiary status, for social groups and sex, in urban India, 2011-12, in per cent*

Social group	Sex	Usual principal and subsidiary status					
		Work force participation	Unemployed	Students	Domestic worker	Others	Labour force participation (1+2)
ST	Male	75.89	2.66	19.08	0.22	2.15	78.55
	Female	27.85	1.47	15.20	53.97	1.50	29.32
	All	53.43	2.10	17.27	25.35	1.85	55.53
SC	Male	78.99	2.66	15.35	0.18	2.83	81.65
	Female	24.84	1.24	13.12	59.29	1.51	26.08
	All	52.81	1.98	14.27	28.75	2.19	54.79
OBC	Male	79.48	2.13	16.21	0.27	1.90	81.61
	Female	21.62	1.13	12.96	62.69	1.60	22.75
	All	51.49	1.65	14.64	30.47	1.76	53.14
Others	Male	77.44	2.86	17.34	0.28	2.08	80.30
	Female	18.45	1.28	14.63	63.94	1.70	19.73
	All	49.09	2.10	16.03	30.87	1.90	51.20
All	Male	78.44	2.53	16.66	0.26	2.12	80.97
	Female	20.98	1.22	13.74	62.43	1.63	22.20
	All	50.75	1.90	15.25	30.21	1.88	52.65

Source: Employment and unemployment survey, NSSO, 2011-12.

Though the decline was sharper in case of rural area than in urban area, in rural areas work force participation has declined from 69.37 per cent in 2004-05 to 59.76 per cent in 2011-12, on the other hand in urban areas had a decline of 3 per cent in work force participation. Abraham (2013) argued that with the rise in the income the work force from the labour market was withdraw. The period between 1999-2000 to 2004-05, had shown a sharp increase in the work force participation, particular among the woman, and the reason behind this increase was argued by researchers was poverty pushed and because of agrarian distress, and also there was decline in the growth rate of agricultural GDP (Himanshu 2011 and Abraham 2009), i.e., in order to save the earning from small land holdings, larger proportion of the woman started working in agriculture which was also partly reason behind their increase in the work force from 1999-2000 to 2004-05 (*ibid.*).

Table 3.4 *Work force participation rate in rural and urban areas, by social group and sex, 2004-05 and 2011-12, in per cent*

Social group	Sex	2004-05			2011-12		
		Rural	Urban	India	Rural	Urban	India
ST	Male	90.38	77.69	89.10	86.02	75.89	84.71
	Female	72.87	35.49	69.12	54.96	27.85	51.83
	All	81.67	56.74	79.16	70.51	53.43	68.42
SC	Male	88.30	79.69	86.38	82.72	78.99	81.82
	Female	54.50	29.92	49.40	39.87	24.84	36.36
	All	71.66	56.31	68.36	61.53	52.81	59.46
OBC	Male	87.11	82.08	85.84	81.55	79.48	80.94
	Female	51.97	27.08	46.20	36.00	21.62	31.91
	All	69.47	56.05	66.22	58.96	51.49	56.80
Others	Male	84.92	79.10	82.51	80.41	77.44	79.11
	Female	39.89	19.53	31.85	28.99	18.45	24.52
	All	62.56	50.72	57.77	54.97	49.09	52.44
All	Male	87.12	80.21	85.14	81.99	78.44	80.88
	Female	51.47	24.23	44.17	37.15	20.98	32.28
	All	69.37	53.62	65.00	59.76	50.75	57.00

Source: Employment and unemployment survey, NSSO, 2004-05 and 2011-12.

3.3 *Composition of Work Force:*

In this section description of work force by different occupation is analysed. The data of NSSO 2011-12 shows that more than half of the work force is self-employed, i.e., 50.65 per cent in India, and this the proportion was even higher in 2004-05 (55.2 per cent) Between 2004-05 to 2010-11, the self-employment declined by 4.35 per cent, the reason for this decline is partly, the access to the regular employment as the regular employment has an increase of 3.89 per cent during this period and along with this casual employment has also seen an increase (0.65 per cent) (tables 3.5 and 3.6).

As compare to all other social groups dalits have lowest percentage of self-employed population in both 2004-05 and 2011-12. On the other hand, population belonging to others social group have highest population of self-employed in 2011-12 and 2004-05 as well. In 2004-05 difference between the self-employed in OBC category and others category was around 0.87 per cent which has a small increase in 2011-12 and has become 2.31 per cent. Self- employment for males and

females belonging to all social groups has declined except male and female workers of ST category and the highest decline was in case of females belonging to OBC category.

Workers belonging to Others category have highest share in regular employment as comparison to the all other social groups. Though it increased 5.06 per cent during 2004-05 to 2011-12. On the other hand in 2011-12, only 9.31 per cent workers of STs category had regular employment which is lowest among all social groups and it was around half of workers employed on regular basis, and the situation was even worse in case of female workers of ST category, only 5.48 per cent were employed on regular basis. Though over the years (from 2004-05 to 2011-12), regular employment has seen an increase in all the social groups and particularly among female workers from others category (6.75 per cent). However, the increase was higher for workers belonging to Others and OBC category as compared to workers from ST and SC category lagged far behind in increase. Abraham (2009 and 2013) pointed out that the important reason for increase in the self employment particularly in rural areas is because of insufficiency casual wages, which increase dependency on self-employment particularly among farmer who own below 0.4 hectares land.

In 2011-12, 30.29 per cent workers were casually employed. Like regular employment, casual employment had negligible increase for all India since 2004-05 but this increase is less than the increase in regular employment. However workers from ST, SC, and Others category had a decline in casual employment and largest decline was among ST category workers (2.7 per cent), and female workers had higher decline than male workers (tables 3.5 and 3.6). In 2011-12, The proportion of workers employed on casual basis was highest among SCs and opposite was the case for workers belonging to Others category. This situation is inverse in case of self-employment where the highest proportion of self-employed workers were from Others category.

In urban areas regular employment is higher than in the rural areas and over the period (from 2004-05 to 2011-12), the increase in the rural regular employment is lower in comparison to urban regular employment. In rural areas, regular employment has increased for all social group except ST males. In case of ST males, it has shown a negligible decline of 0.26 per cent between 2004-05 and 2011-12. On the other hand self-employment has increased for ST male and female workers in rural area despite the fact the self-employment has declined for all social group in

rural area during the period from 2004-05 to 2011-12 (tables 3.5 and 3.6). On the other hand, self-employment has declined in urban areas.

Table 3.5 *Distribution of work force by occupation categories in rural and urban India, by social group and sex, in 2011-12, in per cent*

Social group	Sex	Rural			Urban			India		
		Self employed	Regular	Casual	Self employed	Regular	Casual	Self employed	Regular	Casual
ST	Male	54.41	6.16	39.42	22.91	53.17	23.92	50.76	11.61	37.63
	Female	57.98	3.50	38.52	33.46	35.40	31.14	56.46	5.48	38.06
	Total	55.80	5.13	39.07	25.48	48.84	25.68	52.90	9.31	37.79
SC	Male	33.92	9.66	56.41	28.63	45.41	25.96	32.69	18.00	49.31
	Female	43.52	5.23	51.25	30.83	50.41	18.76	41.49	12.43	46.07
	Total	37.00	8.24	54.76	29.13	46.55	24.32	35.34	16.32	48.34
OBC	Male	55.61	10.32	34.07	42.36	40.18	17.46	51.79	18.94	29.28
	Female	60.96	6.03	33.00	48.33	36.22	15.45	58.53	11.84	29.63
	Total	57.23	9.02	33.75	43.57	39.38	17.05	53.65	16.97	29.37
Others	Male	61.46	15.51	23.03	43.97	48.63	7.40	53.97	29.70	16.34
	Female	72.79	8.62	18.59	41.19	51.34	7.48	62.72	22.24	15.05
	Total	64.41	13.71	21.87	43.47	49.12	7.42	55.96	27.99	16.04
All	Male	52.38	10.95	36.67	40.38	44.83	14.78	48.74	21.23	30.03
	Female	58.90	5.94	35.17	42.10	44.09	13.81	55.61	13.40	30.99
	Total	54.39	9.41	36.20	40.72	44.69	14.59	50.65	19.05	30.29

Source: Employment and unemployment survey, NSSO, 2011-12.

Casual employment has increased for all social groups in rural areas except male workers from ST category (table 3.5 and 3.6). In contrast to rural areas, urban areas have seen a decrease in casual employment for all social groups with the highest decline in among female workers from SC category (tables 3.5 and 3.6). Overall during 2004-05 and 2011-12, in rural areas self-employment has declined and regular and casual employment has seen an increase. In case of urban areas regular employment has increased and self-employment and casual employment have declined (table 3.5 and 3.6).

The structural difference between rural and urban work force, male and female work force and different social groups work force illustrates that there is not equal access for employment to every person belongs to different social group.

Table 3.6 *Distribution of work force by occupation categories in rural and urban India, by social group and sex, in 2004-05, in per cent*

Social group	Sex	Rural			Urban			India		
		Self employed	Regular	Casual	Self employed	Regular	Casual	Self employed	Regular	Casual
ST	Male	50.86	6.42	42.72	32.37	44.37	23.26	49.23	9.76	41.01
	Female	57.37	2.52	40.12	38.05	27.49	34.46	56.37	3.80	39.83
	Total	53.75	4.68	41.57	34.14	39.13	26.74	52.33	7.17	40.50
SC	Male	36.52	8.86	54.62	31.70	41.89	26.41	35.53	15.64	48.83
	Female	45.28	3.72	51.00	33.17	39.12	27.71	43.76	8.17	48.07
	Total	39.80	6.94	53.26	32.07	41.20	26.73	38.43	13.01	48.56
OBC	Male	61.04	9.27	29.69	45.94	36.88	17.18	57.39	15.94	26.67
	Female	67.02	3.64	29.34	54.16	27.65	18.18	65.28	6.90	27.82
	Total	63.29	7.15	29.56	47.82	34.77	17.41	60.12	12.82	27.07
Others	Male	65.63	12.54	21.84	45.93	45.60	8.48	57.80	25.67	16.53
	Female	77.24	5.59	17.17	45.84	46.44	7.71	69.64	15.49	14.88
	Total	69.30	10.34	20.36	45.91	45.75	8.34	60.99	22.93	16.08
All	Male	55.89	9.72	34.39	43.43	41.84	14.73	52.53	18.39	29.09
	Female	62.95	3.89	33.16	46.46	36.82	16.72	60.53	8.73	30.74
	Total	58.50	7.56	33.93	44.08	40.76	15.16	55.20	15.16	29.64

Source: Employment and unemployment survey, NSSO, 2004-05.

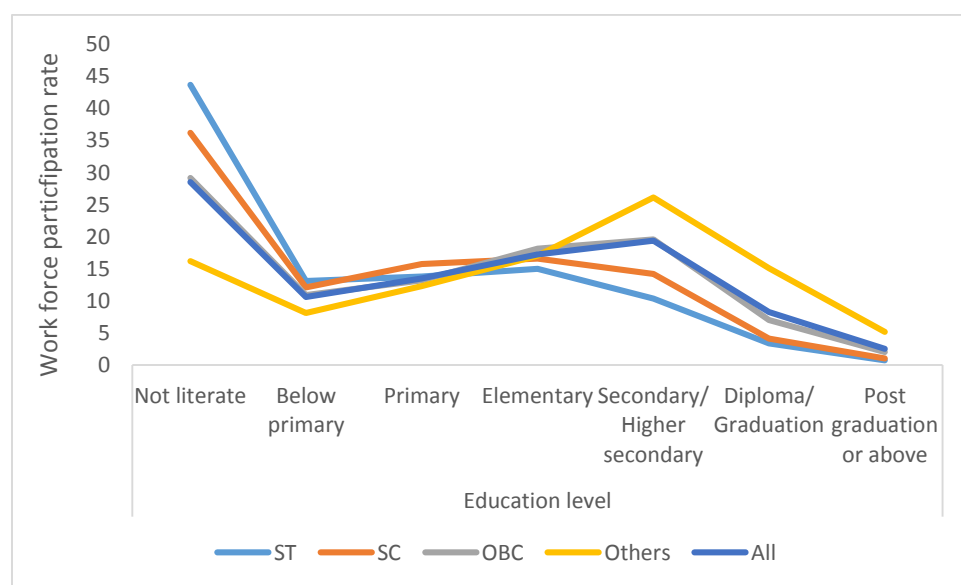
It is clear from table 3.7 that with the increase in the education level proportion of self-employment is also increasing for all social groups and along with a decline in proportion of casual employment for all social groups. There is a small decline in self-employment as well with an increase in educational level but the decline is lower than the decline in the casual employment. For workers educated post-graduation and above levels, the share in casual employment is nearly 1 per cent or even less across the social group and share of regular employment is more than 70 per cent for all social groups. Further, table 3.7 shows that self-employment and education levels are inversely related, i.e, as with the rise in education level the proportion of self-employed workers is decreasing with a small fluctuations among all the social group in 2011-12 and 2004-05 (tables 3.7 and 3.8). Similarly, in 2004-05, regular employment was increasing with the increase in education level and which also resulted in decline of casual employment among all the social groups (tables 3.7 and 3.8).

Table 3.7 *Distribution of occupation according by education levels and social groups, all India 2011-12, in per cent*

Social group	Occupation	Education level							All
		Not literate	Below primary	Primary	Elementary	Secondary / Higher secondary	Diploma/ Graduation	Post graduation or above	
ST	Self employed	52.45	52.80	56.32	56.83	53.36	31.94	25.17	52.90
	Regular	2.42	4.20	6.13	10.66	25.78	61.49	74.73	9.31
	Casual	45.14	43.00	37.54	32.50	20.86	6.57	0.10	37.79
SC	Self employed	36.31	35.30	34.60	35.89	36.81	27.56	15.49	35.34
	Regular	6.38	9.54	11.76	18.37	31.46	63.64	83.25	16.32
	Casual	57.31	55.16	53.64	45.74	31.72	8.81	1.27	48.33
OBC	Self employed	55.73	49.69	52.99	56.23	58.97	38.44	27.07	53.65
	Regular	5.09	10.58	12.82	15.62	22.73	55.93	72.05	16.97
	Casual	39.19	39.73	34.18	28.15	18.30	5.63	0.88	29.38
Others	Self employed	57.55	56.77	57.84	63.70	63.15	40.29	29.01	55.96
	Regular	9.48	12.48	16.07	20.19	29.16	58.15	70.77	28.00
	Casual	32.97	30.75	26.09	16.11	7.69	1.56	0.22	16.04
All	Self employed	50.71	48.37	50.38	54.50	57.04	38.03	27.16	50.65
	Regular	5.66	9.93	12.68	16.92	26.49	58.01	72.31	19.05
	Casual	43.63	41.70	36.93	28.58	16.47	3.96	0.53	30.29

Source: Employment and unemployment survey, NSSO, 2011-12.

Graph 3.3 *Proportion of workers by social groups and educational levels, 2011-12, in per cent*



Source: Employment and unemployment survey, NSSO, 2011-12.

In case of rural India in 2011-12, at the lowest education level workers from Others category have more regular employment (9.48 per cent) than all other social groups. After the secondary/higher secondary education level workers from SC category have more regular employment as compared to the workers from Others category (table 3.8). After educated upto diploma or graduation level STs also have more regular employment than workers from Others category. Workers belonging to Others category have the lowest share in casual employment at all educational levels as compared to all other social groups (table 3.8). In case of self-employment the situation was inverse of casual employment because self-employment is highest in Others category as compared to all other social groups at all education levels.

Table 3.8 *Distribution of occupation according by education levels and social groups, rural India, 2011-12, in per cent*

Social group	Occupation	Education level							All
		Not literate	Below primary	Primary	Elementary	Secondary/ Higher secondary	Diploma/ Graduation	Post graduation or above	
ST	Self employed	53.73	54.55	58.27	59.32	61.41	46.43	39.88	55.80
	Regular	1.43	3.05	4.12	7.04	14.92	42.69	59.91	5.13
	Casual	44.84	42.40	37.61	33.63	23.66	10.87	0.22	39.07
SC	Self employed	37.18	34.96	34.91	37.76	40.90	36.66	27.53	37.00
	Regular	3.24	5.30	6.06	10.09	18.45	47.95	70.53	8.24
	Casual	59.59	59.73	59.03	52.15	40.65	15.39	1.94	54.75
OBC	Self employed	57.01	50.92	55.28	59.66	63.91	47.73	37.37	57.23
	Regular	2.39	6.21	7.24	9.61	13.74	42.94	61.12	9.02
	Casual	40.60	42.87	37.48	30.73	22.36	9.34	1.51	33.75
Others	Self employed	62.16	59.82	63.44	70.29	70.71	50.69	37.60	64.41
	Regular	3.16	6.23	6.46	10.78	18.54	46.17	61.86	13.72
	Casual	34.68	33.95	30.09	18.93	10.75	3.14	0.54	21.88
All	Self employed	52.23	49.47	52.70	58.03	62.55	47.58	36.54	54.39
	Regular	2.54	5.54	6.40	9.70	16.08	44.83	62.38	9.41
	Casual	45.23	45.00	40.90	32.27	21.37	7.60	1.08	36.21

Source: Employment and unemployment survey, NSSO, 2011-12.

The higher proportion of workers educated upto secondary or higher secondary educational level belonging to STs, SCs and OBCs categories, is self-employed but in case of workers belonging to Others category, the proportion of self-employed workers is higher at elementary education level in 2011-12. It is clearly shown in the table 3.8 that highest difference between self-employment of workers belonging to ST, SC and OBC category and Others category is at the elementary education level in rural India. This difference starts decreasing at the upper levels of education.

In 2011-12, proportion of regular employment increases with very high percentage between secondary or higher secondary level and diploma or graduation level among all social groups in rural India. With the increase in the educational level, the difference between regular employment of ST category and Others category also increases, and the difference is large at the secondary or higher secondary education level and after that it starts declining (table 3.8). So the curve of this difference with education level will be inverted u shaped.

At lower education level, difference between regular employment of dalits and Others category is negligible, i.e, very less, between zero to one (table 3.8). But at secondary or higher secondary education levels this scenario changes as dalits have higher proportion of regular employment than Others category worker and at post graduation educational level, the difference between these two categories becomes 8.67 per cent (table 3.8) in rural area. The reason behind higher regular employment among dalits at the post graduation level is that only a small proportion of population is able to complete their education upto post graduation level as a larger proportion of the population has to enter in labour market in order to earn wages for survival.

In 2011-12, the proportion of regular employed workers from OBC and Others category does not have much difference at any education level except for secondary or higher secondary level, where in case of Others regular employment is 3.23 per cent higher than OBCs (table 3.8).

The proportion of self-employed and regular employees from Others category have had remain higher at all educational levels, and this proportion is lowest for casual workers at all educational levels as comparison to workers from all other social groups. Table 3.8 clearly points out the

inverse relationship between casual employment and education level for all social group, i.e, on the higher educational levels the proportion of workers employed casually decreased and *vice versa*. Similarly, in case of self-employment, the proportion is higher at the lower educational level. So therefore, with the increase in the educational level, the proportion of workers increase in the regular employment and decrease in the self-employment and casual employment in rural India.

In urban India, the regular employment has been 20 per cent or above for illiterate workers of all social groups, which on the other hand was below 4 per cent in case of rural area (tables 3.8 and 3.9). The proportion of illiterate workers belonging to and STs category is higher in the casually employed worker than in the self-employment which was not the case in rural areas. And Similar to rural areas, illiterate workers from OBC and Others category are more self-employed than employed on casual or regular basis in urban areas. And SC illiterate workers are more casually employed in both rural and urban area.

The proportion of workers employed either as casual basis or self-employment basis, decreases with an increase in educational levels among STs and SCs in urban area. Partly, the reason for this decrease is also attributed to the increase in the regular employment in urban areas. The proportion of regular employment among STs and SCs at the educational level of post graduation, was 84.64 per cent and 76.8 per cent respectively in urban areas (table 3.9). On the other hand, the self-employment for OBCs and Others, does not have any clear relationship with education level, as it shows a decrease initially but then increases at secondary or higher secondary education level and then after that it again starts decreasing. Though the decrease in the self-employment of Others category self-employment is not as steep as for SCs, STs and OBCs. Though the proportion of self-employment among ST workers is highest at elementary education level and for SCs this was the case at below primary education level. OBCs and Others category workers have highest self-employment at secondary or higher secondary education levels in urban area. Casual employment remain very high among illiterates for all social group. Among the post-graduates, the proportion of regular employment is higher than the self-employment and casual (near zero or one) among all social groups in urban areas.

Table 3.9 *Distribution of occupation according by education levels and social groups, urban India, 2011-12, in per cent*

Social group	Occupation	Education level							All
		Not literate	Below primary	Primary	Elementary	Secondary / Higher secondary	Diploma/ Graduation	Post graduation or above	
ST	Self employed	25.31	22.49	34.56	36.98	23.16	14.10	12.66	25.48
	Regular	23.24	24.15	28.60	39.51	66.50	84.64	87.34	48.84
	Casual	51.45	53.36	36.84	23.51	10.34	1.27	0.00	25.68
SC	Self employed	29.85	37.09	33.26	30.48	28.70	19.92	8.48	29.13
	Regular	29.70	32.38	36.09	42.42	57.29	76.80	90.65	46.55
	Casual	40.44	30.52	30.65	27.10	14.00	3.28	0.87	24.32
OBC	Self employed	47.92	45.25	46.24	46.22	48.92	31.40	21.82	43.58
	Regular	21.42	26.38	29.34	33.18	41.05	65.79	77.62	39.37
	Casual	30.66	28.37	24.42	20.60	10.03	2.82	0.56	17.05
Others	Self employed	39.53	47.98	43.44	51.15	53.13	35.53	26.68	43.47
	Regular	34.20	30.49	40.76	38.12	43.22	63.63	73.18	49.12
	Casual	26.27	21.53	15.80	10.73	3.64	0.84	0.14	7.42
All	Self employed	40.62	43.71	42.50	44.77	47.27	32.17	23.60	40.73
	Regular	26.45	28.54	34.05	36.79	44.96	66.11	76.08	44.68
	Casual	32.93	27.75	23.45	18.45	7.77	1.73	0.32	14.59

Source: Employment and unemployment survey, NSSO, 2011-12.

In rural area, proportion of self-employed among workers is higher in ST category than in Others category and regular employment among ST category workers is lower than Others category for higher educational level, but the situation is inverse in urban areas, i.e., in urban areas the higher proportion of workers belonging to STs are regular employed than the Others category workers and the lower proportion of ST workers in self-employment than Others category workers.

It is clear from tables 3.8 and 3.9 that there are more chances for a person to get regular employment in urban area than in rural area, whether he or she belongs to any social group. It is also clear that higher education gives access to better opportunities and choices of employment.

3.4 Women Participation in Work Force:

The participation of women in work force is very less in India. In 2011-12, women participation in work force was only 32.28 per cent which is 48.6 per cent lower than their male counterparts (table 3.1). As mentioned earlier, the participation of women in domestic work is not included in work, which exclude a large proportion of women who are engaged in domestic work. From 2004-05 to 2011-12 female work force participation has declined by 11.89 per cent in India (table 3.4).

In 2004-05, the female work force participation in urban areas, was only 20.98 per cent and it was 32.28 per cent in the rural areas (table 3.4). During the period from 2004-05 to 2011-12, the female work force participation had a decline of 14.32 per cent in rural areas and 3.25 per cent in urban areas. Despite the steep decline in work force participation of women in rural areas particularly among women belonging to ST category, in comparison to urban areas, still the work force participation of women is higher in rural areas as compare to urban areas (tables 3.4, 3.5, and 3.6). In case of social groups, the highest women work force participation is in ST social group which is followed by SCs, OBCs and Others categories respectively. This is the case for both rural and urban areas.

In the developing countries like India, it is argued that women's entry in work force and choice of employment are based on minimum average income of the family, particularly in case of rural areas (Abraham 2009). If the household's primary worker's income is not sufficient to meet the minimum need of the family than women enters in the work force as a support of that primary worker (Abraham 2009). Still in India, rural economy is based on agriculture, and household in rural areas are not able to meet their minimum required level of income. So therefore, women's work force participation is higher in rural areas. The achievement of minimum required level of income is even more difficult for STs and SCs as compare to OBCs and Others. This explain the higher participation of women from these categories in the work force.

In 2011-12, out of total women work force, 55.61 per cent women are self-employed, 13.40 per cent are regular employed and 30.99 per cent are casually employed (table 3.5). Self-employment among women workers has decline from 2004-204 to 2011-12 by 4.92 per cent, and

on the other hand, regular employment has increased by 4.37 per cent and casual employment increased by less than one per cent (tables 3.5 and 3.6).

However, women belonging to Others social group have access to highest percentage of self-employed and women from SCs category are lowest percentage of self-employment. Regular employment has also been highest in Others social group women and it is lowest for STs women. Almost 46 per cent of SCs women are casually employed which is highest among all social groups and the scenario is opposite for woman belonging to Others category, i.e., they have lowest percentage of casually working population (table 3.5).

In 2011-12, women from rural areas were more self-employed as comparison to other casually or regular employment though in urban areas higher proportion of women were regular employed, and this was the true for female from all social groups except in case of urban OBC females where the higher proportion of women were self-employed than regular employment (table 3.5). In 2004-05, higher proportion of urban women were self-employed than on regular employment basis (table 3.6). But by 2011-12, the proportion of urban female which were self-employed declined for all social groups along with the decline in casual employment from 2004-05, and this was the period during which proportion of women employed on regular bases increased in urban areas (tables 3.5 and 3.6).

Table 3.10, which shows the distribution of females belonging to different social groups according to their education level and their employment, points out that at lowest educational levels, the proportion of women who are self-employed is very low as compare to other occupations for all social groups. The proportion of regular employment increases with the increase in the level of education among women from all social group, and at the higher educational level, the proportion of women workers employed on casual basis or self-employed, decreases.

Further table 3.10, indicates, that the proportionate increase in regular employment is comparatively larger for women belonging to ST and SC category than the women from OBC and Others category. On the other hand, in 2011-12, the proportion of Self-employed women

increases till the educational level is upto diploma/ graduation but after that with the increase in the educational level the proportion of self employed women decreases among all social groups. Though in case of regular employment, upto primary level the increase in the women workers is negligible but from secondary and higher secondary education level the proportion of women workers employed on regular basis, shows a steep increase, this also leads to sharpen decrease in casual employment. Therefore, in 2011-12, at the post graduation level, the proportion of female workers employed on regular basis was highest among ST category women which was followed by SC, OBC, and Others categories respectively and reverse was the order in case of self-employment.

Table 3.10 *Distribution of female work force by education levels and social groups, all India, in 2011-12, in per cent*

Social group	Occupation	Education level							All
		Not literate	Below primary	Primary	Elementary	Secondary / Higher secondary	Diploma/ Graduation	Post graduation or above	
ST	Self employed	54.81	58.57	66.87	59.42	57.19	29.70	3.71	56.46
	Regular	2.14	3.06	4.25	8.04	29.73	68.13	96.29	5.48
	Casual	43.05	38.37	28.87	32.55	13.08	2.18	0.00	38.06
SC	Self employed	41.95	40.14	43.07	46.99	40.04	18.76	10.57	41.49
	Regular	6.60	8.72	12.03	16.64	30.71	75.55	88.94	12.43
	Casual	51.45	51.13	44.90	36.37	29.25	5.70	0.49	46.07
OBC	Self employed	62.21	51.30	59.37	61.62	63.20	27.26	15.60	58.53
	Regular	3.23	9.74	10.71	12.07	20.11	70.24	84.18	11.84
	Casual	34.55	38.96	29.92	26.32	16.69	2.50	0.21	29.63
Others	Self employed	68.20	71.20	69.22	76.17	70.47	24.85	20.93	62.71
	Regular	6.94	6.87	9.93	12.68	23.41	72.93	78.78	22.24
	Casual	24.86	21.93	20.85	11.14	6.12	2.23	0.29	15.05
All	Self employed	56.69	53.77	59.18	62.85	61.97	25.34	18.13	55.61
	Regular	4.38	7.97	10.07	12.56	23.45	71.99	81.59	13.40
	Casual	38.93	38.25	30.75	24.59	14.57	2.66	0.28	30.99

Source: Employment and unemployment survey, NSSO, 2011-12.

Table 3.10 clearly states that the education gives more stability in job market, i.e., with the higher level of education one has more chances to get regular employment and stability in employment. This is true for both male and female from all social group in rural and urban areas.

3.5 Unemployment:

In developing countries, such as India, higher rates of unemployment has remain an issue of concern. This section examines the changes in unemployment rates among different social groups over the period, from 2004-05 to 2011-12, the section further analysis the effect of different education on unemployment as well.

Table 3.11, shows that between the period from 2004-05 to 2011-12, the rate of unemployment has declined by 0.12 per cent. In other words, the rate of unemployment was 2.44 per cent in 2004-05 and has become 2.32 per cent by 2011-12. Though, workers belonging to Others category have highest rate of unemployment which is followed by unemployment rates of SCs, OBCs and STs categories respectively. The unemployment rate is higher in urban areas as compared to rural areas. Similarly, unemployment rate is higher for women than men.

Table 3.11 *Unemployment rate in rural and urban India, by social group and sex, in 2004-05 and 2011-12, in per cent*

Social group	Sex	2004-05			2011-12		
		Rural	Urban	India	Rural	Urban	India
ST	Male	1.05	3.00	1.23	1.32	3.38	1.56
	Female	0.47	3.73	0.64	1.18	5.02	1.42
	All	0.79	3.23	0.97	1.26	3.79	1.51
SC	Male	1.78	5.60	2.59	2.11	3.26	2.38
	Female	1.46	4.90	1.91	1.14	4.77	1.73
	All	1.66	5.43	2.35	1.80	3.61	2.19
OBC	Male	1.56	3.34	2.00	1.81	2.61	2.04
	Female	2.03	7.25	2.77	1.87	4.98	2.48
	All	1.74	4.26	2.27	1.83	3.10	2.16
Others	Male	2.13	3.79	2.79	1.99	3.57	2.67
	Female	3.11	8.76	4.54	2.60	6.50	3.88
	All	2.44	4.74	3.27	2.15	4.11	2.95
All	Male	1.70	3.88	2.30	1.86	3.12	2.25
	Female	1.90	7.25	2.73	1.74	5.50	2.50
	All	1.78	4.62	2.44	1.82	3.61	2.32

Source: Employment and unemployment survey, NSSO, 2004-05 and 2011-12.

In urban area in 2011-12, female workers from Others social group, have highest unemployment rate (6.5 per cent) and on the other hand, male workers from OBC category, have lowest unemployment rate (2.61 per cent). In rural area, females from Others social group, have highest unemployment rate (2.6 per cent) and SC females have lowest unemployment rate (1.14 per cent) (table 3.11)

Unemployment rate among ST category workers has increased by 0.54 per cent from 2004-05 to 2011-12 in India. ST has increase in unemployment rate for both male and female in rural and urban areas. Apart from male and female workers from ST category and male worker from OBC social group, the unemployment rate for all other social groups has declined in India during the period from 2004-05 to 2011-12, similar was the case for rural India (table 3.11). In urban areas, except male and female workers from ST social group, the unemployment rate has declined for all others (table 3.11).

Table 3.12 *Unemployment rate among different social groups by different education levels and sex, in 2011-12, in per cent*

Social group	Sex	Education level							All
		Not literate	Below primary	Primary	Elementary	Secondary / Higher secondary	Diploma/ Graduation	Post graduation or above	
ST	Male	0.40	0.27	0.75	1.42	4.71	6.13	5.55	1.56
	Female	0.00	0.05	0.26	2.82	13.65	19.51	20.97	1.42
	All	0.18	0.20	0.61	1.76	6.29	8.43	8.90	1.51
SC	Male	0.59	0.89	2.87	2.63	2.77	8.87	12.15	2.38
	Female	0.27	0.59	0.35	1.68	7.53	20.16	17.11	1.73
	All	0.44	0.82	2.28	2.46	3.57	10.97	13.21	2.19
OBC	Male	0.61	0.71	1.09	1.88	2.50	6.94	6.13	2.04
	Female	0.21	0.29	0.71	3.06	6.76	16.93	15.77	2.48
	All	0.43	0.60	0.99	2.10	3.16	8.82	8.41	2.16
Others	Male	0.51	2.46	1.24	2.00	2.76	5.30	4.52	2.67
	Female	0.48	0.96	0.97	2.32	5.97	12.23	11.44	3.88
	All	0.50	2.11	1.17	2.06	3.25	6.51	6.37	2.95
All	Male	0.56	1.08	1.51	2.02	2.76	6.29	5.79	2.25
	Female	0.23	0.45	0.65	2.60	7.03	15.14	13.49	2.50
	All	0.40	0.92	1.29	2.13	3.43	7.89	7.72	2.32

Source: Employment and unemployment survey, NSSO, 2011-12.

Table 3.12 shows, the unemployment rate among different social groups according to their education levels, it clear states that with the higher educational levels, the unemployment rate is also increasing. Then important reason behind this is that people with higher education levels are not getting employment according to their educational qualification so they are not being included in the work force and remain in the labour force.

At the initial educational levels (before secondary level), the unemployment rate increases with a slow rate but at secondary/ higher secondary levels of education, the rate of unemployment increases sharply (table 3.12). Unemployment rate among ST category females has shown the highest increase and for males from Others category this increase is proportionately lowest. Though in case of dalit workers, the unemployment rate has remained higher at all educational levels as compared to other social groups.

The rate of unemployment, has shown grater increase in the case of female workers in comparison to male workers, for all social groups. Till primary levels of education, overall unemployment rate is higher among men but with the higher levels of education the situation become inverse. Table 3.12, further indicates that males have higher chance to get into work force rather than females.

3.6 Conclusions:

The above discussion on NSSO data employment and unemployment, shows that both work force participation and labour force participation has declined from 2004-05 to 2011-12. And this decline is larger for in case of female workers than for male workers. Abraham (2013) has argued that with upward mobility of incomes, a larger section of woman are withdrawn from the work force and labour force. However, there is higher degree of gender biasness against female workers in the labour market.

On the other hand, workers from SC and ST social groups, which generally belong to lower income groups as well, have higher participation in labour force as comparison to OBC and Others category worker. The important reason for their inclusion in the work force without the completion of their education, is to meet their minimum requirement of livelihood (Abraham

2009). On the other hand OBC and Other categories have higher percentage of population as students in comparison to SC and ST category population, because generally they belong to higher income groups and their minimum level of livelihood is fulfilled.

It is clear from above analysis that education is an important factor in determining the type of employment and regular employment gives more security in work force. However, despite the level of education an individual has attained, there is always scope for competition. Furthermore, a rise in the educational level provides prospects of getting regular employment but, there is an imbalance in opportunity between two or more individuals with equal qualification due to variations across social groups, gender, environment and exposure. In urban areas at higher level of education, there are more chances of getting a regular employment as compared to rural areas. Education affects female work force participation more than male work force participation. Also women are more self-employed in rural areas as they work on their own agricultural land and regular employed in urban areas.

Chapter 4

Changes in Wage Patterns and Wage Inequality in India

4.1 Introduction:

After almost seven decades of independence, India is one among the countries which have higher levels of income related inequality like wage inequality, assets inequality etc (Madheswaran and Attewell 2007, Mukherjee and Majumder 2011 and Rawal and Swaminathan 2011)). The large section of people are not getting any benefits from the economic growth (growth in GDP) because of various reasons such as caste, sex and education qualifications etc (Madheswaran and Attewell 2007 and Mukherjee and Majumder 2011). The concentration of incomes and wages, is in the hands of a small section of people (*ibid*). Research studies have pointed out that the people who belong to higher income groups are generally and mostly from upper castes (*ibid.*). And a large sections of the society have lagged behind in this economic gains, schedule caste and schedule tribe in particular (*ibid.*).

The main objective of this chapter is to examine the changes in the wage patterns among different social groups and to explore the factors responsible for wage differences among different social groups. Further, in the chapter, intra social group wage difference are analysed along with analysis of inter social groups changes.

For this chapter the data collected by NSSO (61st and 68th rounds) is used which is explained in previous chapter (chapter 1). For calculating changes in the wages, the age group of 15 to 59 years is taken in order to understand the difference. Further, to analysis the real change in wages, the wages of 2004-05 are converted to 2011-12 prices using the base year of 1986-87 and 1982 for respectively for CPI (AL) and CPI (IW). In case of CPI (IW) data of 2004-05 and 2011-12 wages are available with two different base years and these are base years 1982 and 2001 respectively, so in order to make it comparable, the base year of 2001 is converted to the base year of 1982 by using the centre wise linking factors which are provided by labour bureau. Further, States level conversion table of CPI(AL) and CPI(IW) is used to convert the wages of different states to 2011-12 prices. However, the information on wages or earning of self-

employed workers is not calculated in these rounds, therefore, the days of self-employment are not included while calculating the wages.

4.2 Pattern of Wages in India:

In India, wages are either paid on time rated (such as daily, weekly etc.) basis or on piece-rated basis (according to the size of area, quantity etc.). The wage is either paid in cash or kind and in some cases it is paid in both cash and kind. Kind payments are made more in rural areas than urban areas. NSSO collects information on time rated and piece-rated contracts along with detailed information on cash and kind wages. Further, to convert the kind wages to cash, retail prices are used by NSSO.¹ In 2011-12, the average daily wage of a person in India was Rs. 253.19. There was large difference between rural and urban wages and in the wages of male and female workers. In 2011-12, for an urban person average daily wage was Rs. 213.87 higher than the average daily wage of a rural person. Though at all India level the difference between average daily wage of male and female was Rs. 86.93. And similar was the case for both male and female workers in rural and urban areas.

The reason behind the difference in the wages in rural and urban areas, pointed out in studies are the a) decline in yield of agricultural produce in rural areas, b) higher dependency on agricultural land, c) slow growth in employment opportunities in both public and private sector (See Abraham 2011, Chandrasekhar and Ghosh 2011, Usami 2011, Himanshu 2011). The wage gaps between male and female workers in different social groups is explained further in the chapter.

In 2011-12, among all social groups, the lowest wage was paid to the workers belonging to schedule tribe, and was followed by workers of schedule caste, other backward class and Others category and similar was the scenario for rural areas. In urban areas, schedule castes had minimum wages and it was followed by other backward classes, schedule tribes and Others social groups. Workers from Others category had maximum wages paid in both rural and urban area.

¹http://www.mospi.nic.in/mospi_new/upload/nssso/concepts_61R.pdf.

Table 4.1 *Average daily wage in rural and urban India, by social group and sex, in 2011-12, in rupees*

Social group	Sex	Rural	Urban	India
ST	Male	154.54	366.15	195.17
	Female	109.65	248.31	126.64
	Person	141.03	342.38	175.73
SC	Male	170.00	300.10	204.41
	Female	111.77	201.78	133.92
	Person	156.32	278.68	188.16
OBC	Male	189.79	332.08	241.32
	Female	124.07	242.02	158.18
	Person	174.53	316.04	223.57
Others	Male	247.28	531.66	401.06
	Female	159.98	462.82	327.76
	Person	231.86	518.96	387.80
All	Male	191.86	406.54	271.94
	Female	123.41	318.56	185.01
	Person	176.07	389.94	253.19

Source: Employment and unemployment survey, NSSO, 2011-12.

The average wage for schedule tribe, schedule caste and other backward class social groups in 2011-12, was lower than all India average wage, similar was the situation for rural and urban areas (table 4.1). The difference between schedule tribe and Others category wage was Rs. 212.07 in all India in 2011-12, and in rural areas the difference was of Rs. 90.83 and in urban areas the difference was of Rs. 176.58. The difference between the average wages of schedule caste and Others category was Rs. 202.92 in all India, Rs. 75.54 in rural areas and Rs. 240.28 in urban areas. The difference between average wages of other backward class and Others category was Rs. 164.23 in all India, Rs. 57.33 in rural area and Rs. 202.92 in urban area. Therefore, the above discussion shows that the difference between average wages between schedule caste, schedule tribe, other backward class and Others is larger in urban areas than rural areas. The difference between the wages of rural and urban area are because of the employment opportunities in skilled and unskilled work, as in case of rural areas, the work force is mainly involved in unskilled casual work though urban areas, there are higher involvement in skilled work. And the wages for skilled work are higher than the wage payment for unskilled work. (Usami 2011 and 2013). Usami (2011) point out after comparing real wages of non-farm worker

and agricultural labour that "the wage rate for unskilled labour is at a level almost similar to that for agricultural labour." Similar is the reason behind the difference between casual and regular employment.

The wage difference between regular and casual employment is very large, it is almost 176 per cent higher for regular workers as compared to casual workers. Tables 4.2 and 4.3 give the detail information of regular and casual wages among different social group by their sex in both rural and urban areas. In 2011-12 average daily wage of regular workers was Rs. 396.39 in India. In case of urban sector, regular wage was 50.76 per cent higher than rural sector. Similarly for male workers, regular wages were 35.39 per cent higher than female workers. The difference between the wages of rural and urban areas and male and female wages existed for all social groups. This difference between rural and urban wages is largest for Others category (Rs. 212.44) followed by Schedule tribe (Rs. 131.12), other backward class (Rs. 89.65) and schedule caste (Rs. 71.64). In case of Schedule caste category, the difference in wages of rural and urban areas for regular wages is lowest among all social groups.

Table 4.2 *Regular wages in rural and urban sectors in India, by social groups and sex, in 2011-12, in rupees*

Social group	Sex	Rural	Urban	India
ST	Male	333.05	445.64	392.32
	Female	195.11	340.68	252.43
	Person	295.96	427.08	361.11
SC	Male	282.93	359.82	328.13
	Female	149.04	226.90	198.90
	Person	255.58	327.57	298.75
OBC	Male	296.12	384.09	350.31
	Female	194.05	282.48	246.41
	Person	275.72	365.37	330.54
Others	Male	372.99	581.23	519.18
	Female	253.20	501.37	437.04
	Person	353.74	566.18	504.37
All	Male	322.15	470.75	417.58
	Female	201.37	367.30	308.42
	Person	298.86	450.59	396.39

Source: Employment and unemployment survey, NSSO, 2011-12.

Table 4.3 *Casual wages in rural and urban sectors in India, by social groups and sex, in 2011-12, in rupees*

Social group	Sex	Rural	Urban	India
ST	Male	122.16	163.76	125.22
	Female	96.74	103.64	97.14
	Person	114.38	148.20	116.71
SC	Male	147.52	184.96	152.32
	Female	105.77	123.46	107.26
	Person	137.46	174.79	141.87
OBC	Male	153.46	198.38	161.36
	Female	105.43	120.54	107.16
	Person	141.80	185.76	148.91
Others	Male	150.53	199.07	160.86
	Female	100.89	142.42	108.32
	Person	141.17	190.13	151.29
All	Male	147.33	193.36	154.51
	Female	103.58	124.21	105.73
	Person	136.70	181.77	143.19

Source: Employment and unemployment survey, NSSO, 2011-12.

In 2011-12, for workers from Others category who are employed on regular basis, have been paid highest wages in both rural and urban areas among all social groups. On the other hand, workers employed on regular basis from schedule caste have been paid lowest wages in both rural and urban areas. For Others category regular workers, average wages were 58.13 per cent higher than schedule caste workers in India, 67.45 per cent higher in urban areas and 27.75 per cent higher in rural areas (table 4.2). In case of workers from Other backward class, the average regular wage was 49.14 per cent lower in all India, 56.75 per cent lower in urban areas and 22.06 per cent lower in rural areas as compare to Others category workers. Similarly, the wage difference in average wages of Others category regular workers and worker from ST category, was 40.50 per cent in all India and 39.32 per cent higher in urban areas and 16.33 per cent higher in rural areas, i.e., workers from ST category lagged behind in wage payment as compared to workers from Other category (table 4.2).

In case of casual workers average daily wage for all persons in all India was Rs.143.19 in 2011-12, Rs. 181.77 in urban area and Rs.136.70 in rural area (table 4.3). Similar to average wages of regular workers, the average daily wages of casual workers also had a difference in rural and urban areas, and similar was the condition for male and female workers. The average daily wages for casual workers in rural areas was 24.79 per cent lower than urban areas. For male workers casual daily wages were 46.13 per cent higher than the female workers.

In rural areas, the average wages of casual workers of Others and OBC category, are almost similar, but in urban areas, Others have been paid on an average higher wages than OBC category workers (table 4.3). The difference between schedule tribe casual daily wages and the average wages of workers from Others social group is highest in both rural and urban areas. For Others average casual wage is 24.49 per cent higher than schedule tribe casual wage in all India, 29.69 per cent higher in urban area and 18.98 per cent higher in rural area (table 4.3). On the other hand, the average casual daily wage for Schedule caste workers is 6.66 per cent lower than Others casual daily wage in all India, 10.86 per cent lower in urban area and 2.62 per cent lower in rural area (table 4.3).

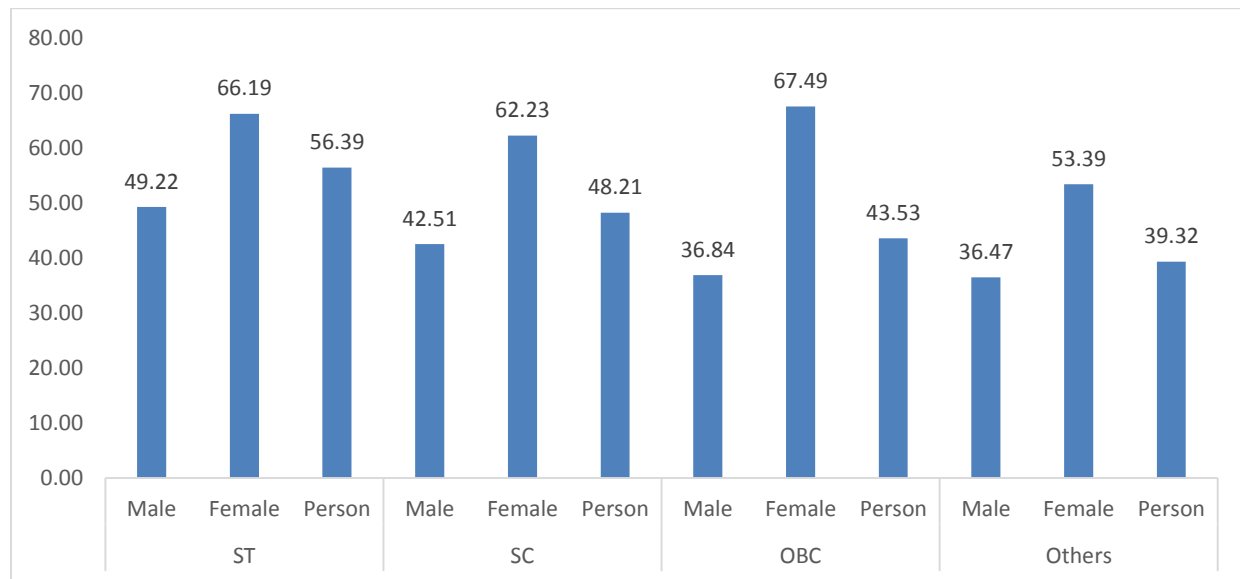
The difference in the average wage payment also increase with the increase in wage payments, i.e, between the average regular daily wages and average casual daily wages, the wage difference were more in case of regular wage payments among all social groups in both rural and urban areas. Similarly, in urban areas the wage difference among different social groups for both casual and regular wages.

4.3 Growth in Wages:

During the period from 2004-05 to 2011-12, the average daily wage has been increases by 42.09 per cent in all India. For rural areas, averages wages increased 3.91 per cent more than the increase in urban areas, in others words, the wage increase in rural areas is 40.79 per cent and in urban area it is 36.88 per cent (graph 4.1). For female workers at all India level, the average daily wage has increased 61.59 per cent and in case of male workers the increase was 36.46 per cent, i.e., the average wages for female workers increased by 25.13 per cent more than for male workers. There important factor which had impact on the increase in the wages for female

workers was the implementation of MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act) (Chandrasekhar and Ghosh 2011). Since woman are paid lower wages in agricultural work than their male counterparts but the work in MGNREGA decreased the wage gaps in rural areas.

Graph 4.1 *Percentage increase in average daily wages in all India, by social group and sex, from 2004-05 to 2011-12, in per cent*



Source: Employment and unemployment survey, NSSO, 2004-05 and 2011-12

The increase in the average real wages has been higher in rural areas than in urban areas except for workers belonging to Others category (table 4.4). Workers from Others social group have 11.6 per cent more increase in average daily wage in urban areas than average wages in rural areas. In rural areas during 2004-05 to 2010-11, the proportionate increase in the average wages was highest for Schedule tribe workers (50.84 per cent) followed by schedule caste (47.83 per cent), other backward caste (41.39 per cent) and others (29.90 per cent) (table 4.4). In case of urban areas, schedule caste have highest increase (41.88 per cent) in average wages, followed by others (41.50 per cent), other backward class (38.67 per cent) and schedule tribes (35.10 per cent) (table 4.4). The analysis of wages in different types of employment has shown that the average wage of casual workers has increased 19.02 per cent more than the average wage of regular workers. In other words, regular wages have witnessed 34.10 per cent increase in all India, on the other hand casual wages have increased by 53.12 per cent (tables 4.5 and 4.6).

Table 4.4 *Percentage change in average daily wages in rural and urban areas by social group and sex, from 2004-05 to 2011-12, in per cent*

Social group	Sex	Rural	Urban	India
ST	Male	44.52	26.38	49.22
	Female	60.72	61.49	66.19
	Person	50.84	35.10	56.39
SC	Male	41.67	39.48	42.51
	Female	60.80	50.06	62.23
	Person	47.83	41.88	48.21
OBC	Male	33.81	35.99	36.84
	Female	62.26	55.42	67.49
	Person	41.39	38.67	43.53
Others	Male	25.89	40.92	36.47
	Female	45.10	44.95	53.39
	Person	29.90	41.50	39.32
All	Male	34.18	35.13	36.46
	Female	58.24	45.78	61.59
	Person	40.79	36.88	42.09

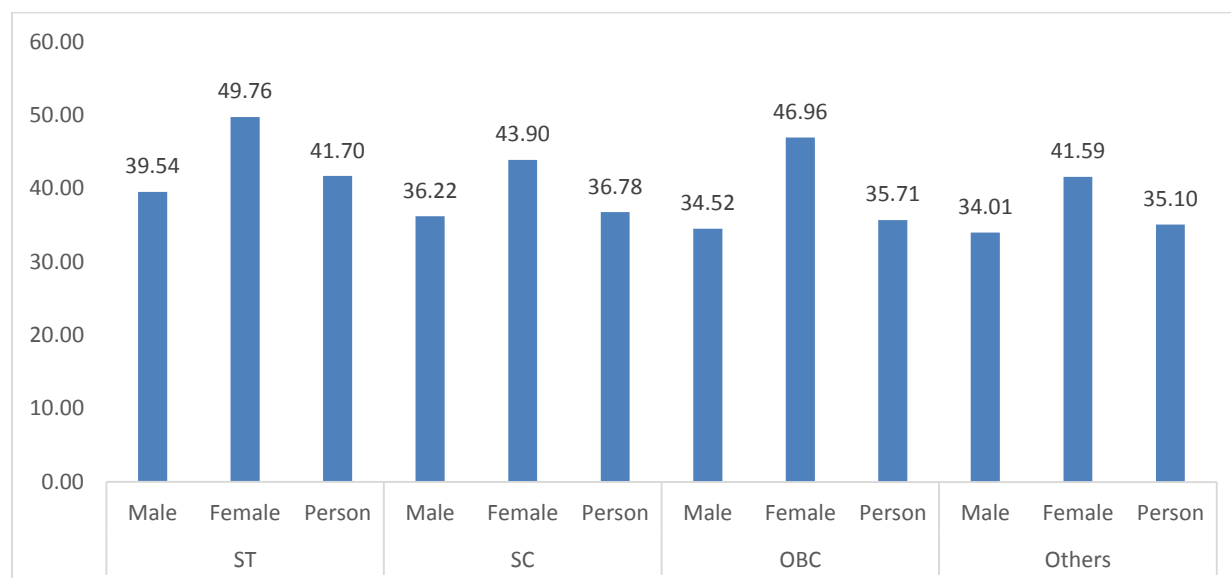
Source: Employment and unemployment survey, NSSO, 2011-12 and 2004-05.

Table 4.5 *Percentage change in average daily wages of regular employees in rural and urban areas by social group and sex, from 2004-05 to 2011-12, in per cent*

Social group	Sex	Rural	Urban	India
ST	Male	44.42	23.62	39.54
	Female	38.63	57.20	49.76
	Person	41.60	30.03	41.70
SC	Male	28.06	39.75	36.22
	Female	39.66	42.27	43.90
	Person	28.94	39.69	36.78
OBC	Male	28.37	35.00	34.52
	Female	37.86	47.52	46.96
	Person	29.03	36.25	35.71
Others	Male	15.95	39.87	34.01
	Female	23.65	44.45	41.59
	Person	16.94	40.53	35.10
All	Male	24.31	35.12	33.22
	Female	32.60	40.64	40.75
	Person	24.98	35.84	34.10

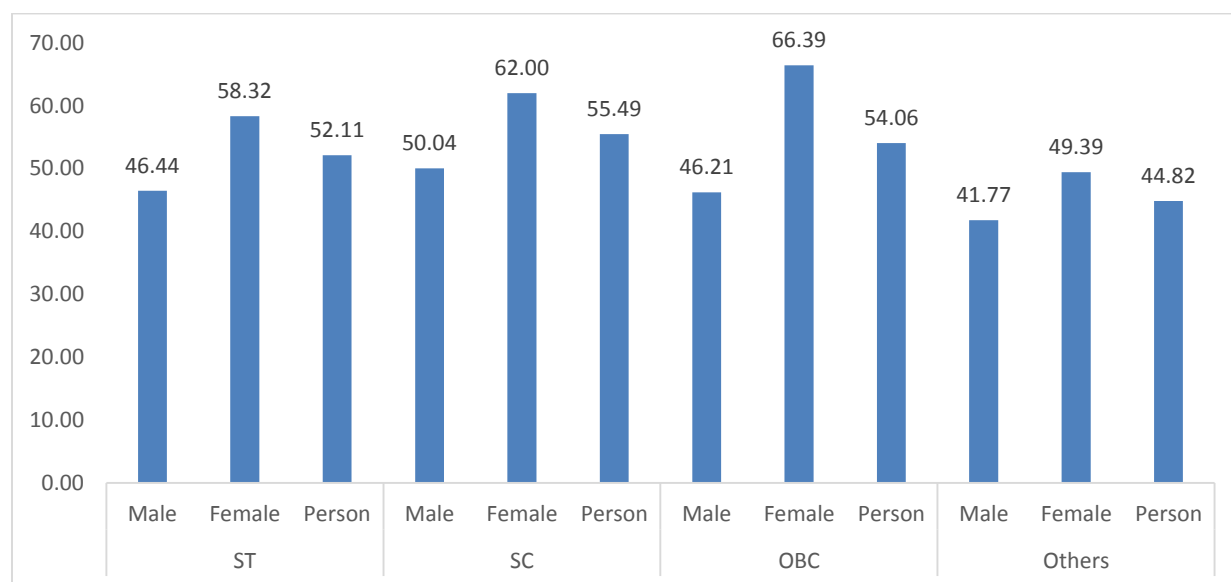
Source: Employment and unemployment survey, NSSO, 2011-12 and 2004-05.

Graph 4.2 *Percentage increase in regular average daily wages in all India, by social group and sex from 2004-05 to 2011-12, in per cent*



Source: Employment and unemployment survey, NSSO, 2004-05 and 2011-12

Graph 4.3 *Percentage increase in casual average daily wages in all India, by social group and sex, from 2004-05 to 2011-12, in per cent*



Source: Employment and unemployment survey, NSSO, 2004-05 to 2011-12

The average regular wages in urban areas have increased 10.86 per cent more than rural areas. From 2004-05 to 2011-12, in rural area this increase is 24.98 per cent and in urban areas it is 35.84 per cent (table 4.5). In case of female, average regular wages have increased more than their male counterparts. i.e., for male regular workers the average wage has increased by 33.32 per cent whereas for female the increase is 40.75 per cent.

Among all social groups, worker from schedule tribe category have highest increase in regular average wages in all India and in rural areas (table 4.5). In urban areas Others have highest increase in regular average wages (table 4.5). From 2004-05 to 2011-12, as compare to Others category, regular average wages of schedule tribe, schedule caste and other backward class have increased by 24.66 per cent, 12 per cent and 12.09 per cent respectively in rural area (table 4.5 and graph 4.2). In urban areas Others have lowest increase in regular average wage and average wages of schedule tribes, schedule castes and other backward classes have been increased by 10.5 per cent, 0.84 per cent and 4.28 per cent (graph 4.2).

Table 4.6 *Percentage change in average daily wages of regular employees in rural and urban areas by social group and sex, from 2004-05 to 2011-12, in per cent*

Social group	Sex	Rural	Urban	India
ST	Male	47.35	23.81	46.44
	Female	60.03	31.48	58.32
	Person	53.07	30.44	52.11
SC	Male	51.07	41.61	50.04
	Female	63.46	49.62	62.00
	Person	56.55	46.07	55.49
OBC	Male	47.12	41.40	46.21
	Female	68.24	51.42	66.39
	Person	55.46	45.31	54.06
Others	Male	46.65	32.57	41.77
	Female	53.09	27.80	49.39
	Person	50.35	31.78	44.82
All	Male	48.99	37.80	47.08
	Female	63.59	42.85	61.35
	Person	55.27	40.54	53.12

Source: Employment and unemployment survey, NSSO, 2011-12 and 2004-05.

As mentioned earlier, average wage of casual worker has increased more than average wage of regular worker. From 2004-05 to 2011-12, the increase in casual average wages is 53.12 per cent in all India. For the same period, the increase in average wage of casual workers was higher for rural areas (55.27 per cent) than urban areas (40.54 per cent) (table 4.6). The rise in the average wages of female casual workers (61.35 per cent) was higher than male casual workers (47.08 per cent) (graph 4.3).

Among all social groups, casual workers from schedules castes category was highest increase in average wage in both rural area and urban area from 2004-05 to 2011-12 (table 4.6). This increase was 3.48 per cent higher than schedule tribes, 1.9 per cent higher than other backward class and 6.2 per cent higher than Others in rural area (table 4.6). In urban area schedule caste casual average wage increase was 15.63 per cent higher than schedule tribe and 0.76 per cent higher than other backward class and 14.29 per cent higher than others (table 4.6).

From 2004-05 to 2011-12, compound annual growth rate of average daily wage was 5.15 per cent. For regular average wages, the compound annual growth rate was 4.28 per cent and for casual average wages, the compound annual growth rate was 6.28 per cent (table 4.7). Highest growth rate in average daily wage was noticed for other backward class female (7.65 per cent) in all India from 2004-05 to 2011-12 (table 4.7).

Annual growth rate of average daily wages, was higher among female workers than in male workers in both rural and urban areas. In rural areas, highest annual growth in wages was for other backward class females and in urban areas it was highest among schedule tribe female workers (table 4.7).

Workers from Schedule tribe category have had highest annual growth rate of average daily wages among all social group followed by schedule caste, other backward class and Others in rural area during 2004-05 to 2011-12 (table 4.7). In urban area, schedule caste have had highest annual growth rate of average daily wages followed by Others, other backward class and schedule tribe (table 4.7).

Table 4.7 *Compound annual growth rate in total wages in rural and urban sector by social group and sex, from 2004-05 to 2011-12, in per cent*

Social group	Sex	Rural	Urban	India
ST	Male	5.40	3.40	5.88
	Female	7.01	7.09	7.53
	Person	6.05	4.39	6.60
SC	Male	5.10	4.87	5.19
	Female	7.02	5.97	7.16
	Person	5.74	5.12	5.78
OBC	Male	4.25	4.49	4.58
	Female	7.16	6.50	7.65
	Person	5.07	4.78	5.30
Others	Male	3.34	5.02	4.54
	Female	5.46	5.45	6.30
	Person	3.81	5.08	4.85
All	Male	4.29	4.40	4.54
	Female	6.78	5.53	7.10
	Person	5.01	4.59	5.15

Source: Employment and unemployment survey, NSSO, 2004-05 to 2011-12

Female workers in both rural and urban areas, have higher annual growth in average regular wage than male workers, except for schedule tribe female workers of rural areas (table 4.8). Schedule tribe female worker have highest annual growth rate (5.94 per cent) for regular wages in all India, i.e., the annual growth in regular average wages for ST category female workers was higher than the all India annual growth in wages for males and females (table 4.8). Similarly, Schedule tribe male workers have highest annual growth rate (5.39 per cent) for wages of males and females in regular employment in rural area and this proportion was highest among schedule tribe female (6.68 per cent) in urban area (table 4.8). Therefore, table 4.8 indicates that schedule tribe workers have received the highest annual growth rate in average wages of regular employment at all India level. In urban areas, workers (combined for male and females) from Others category have highest annual growth rate in regular average wage across social groups, and in rural areas schedule tribe workers (combined male and female) have achieved highest annual growth rate of regular average wage across social groups (table 4.8).

Table 4.8 *Compound annual growth rate in regular wages of rural and urban sector by social group and sex, from 2004-05 to 2011-12, in per cent*

Social group	Sex	Rural	Urban	India
ST	Male	5.39	3.08	4.88
	Female	4.78	6.68	5.94
	Person	5.09	3.82	5.10
SC	Male	3.60	4.90	4.52
	Female	4.89	5.17	5.34
	Person	3.70	4.89	4.58
OBC	Male	3.63	4.38	4.33
	Female	4.69	5.71	5.65
	Person	3.71	4.52	4.46
Others	Male	2.14	4.91	4.27
	Female	3.08	5.39	5.09
	Person	2.26	4.98	4.39
All	Male	3.16	4.39	4.18
	Female	4.11	4.99	5.00
	Person	3.24	4.47	4.28

Source: Employment and unemployment survey, NSSO, 2004-05 and 2011-12

Table 4.9 *Compound annual growth rate in casual wages of rural and urban sector by social group and sex, from 2004-05 to 2011-12, in per cent*

Social group	Sex	Rural	Urban	India
ST	Male	5.69	3.10	5.60
	Female	6.95	3.99	6.78
	Person	6.27	3.87	6.18
SC	Male	6.07	5.10	5.97
	Female	7.27	5.92	7.14
	Person	6.61	5.56	6.51
OBC	Male	5.67	5.07	5.58
	Female	7.72	6.11	7.55
	Person	6.51	5.48	6.37
Others	Male	5.62	4.11	5.11
	Female	6.27	3.57	5.90
	Person	6.00	4.02	5.43
All	Male	5.86	4.69	5.67
	Female	7.28	5.23	7.07
	Person	6.49	4.98	6.28

Source: Employment and unemployment survey, NSSO, 2004-05 and 2011-12

In case of casual wages annual growth rates, female workers of other backward class have had highest growth rate among all male and female workers in India (7.55 per cent), followed by schedule caste female workers (7.14 per cent) (table 4.9). For rural and urban areas these both have been the highest annual growth rate for casual workers. In rural areas annual growth rate of casual wages for combined male and female was more than 6 per cent for every social group and the inter social group differences in these growth rates are also very small. In urban areas, Schedule tribes have lowest annual growth rate (3.87 per cent) for all persons and workers belonging to other backward class have highest annual growth rate (5.48 per cent).

4.4 Inequality in Wages

In order to understand the wage inequality among different social groups and among different types of employment, value of Gini coefficient and Lorenz curve are calculated on the weekly wage rates used. Table 4.10 shows the values of Gini coefficient among different social group according to their employment status and social groups. From 2004-05 to 2011-12 wage inequality has a very small declines Gini coefficient of wage inequality is decreased from 0.50 to 0.48. Along with inter and intra social inequalities for social group wage inequality, these inequalities were persistent across different employment status.

In case of intra employment status wage inequalities, the wage inequality within regular workers were higher than casual workers wage inequality in year 2011-12 and also in year 2004-05. For casual workers, the Gini coefficient at all India level is 0.28, and the value of Gini coefficient for regular workers at all India level is 0.47 (table 4.10).

For casual workers, the daily wage inequalities across social groups have a variations in both 2004-05 and in 2011-12. the wage inequality among Other backward class and Others category casual worker is equal for both year and Schedule tribe and Schedule caste have 6 per cent and 4 per cent less inequality than OBC and other category casual workers in 2011-12. Dalits and adivasis also had less wage inequality for casual workers than OBC and Others in 2004-05. But during this period, the overall inequality in casual workers wages has shown a very small decline of only 1 per cent. Within all social groups, wage inequality among casual workers also had some decline of 4 per cent to 1 per cent.

On the other hand, from 2004-05 to 2011-12, the similar type of inequalities are persistent among regular wage workers (table 4.10). Wage inequality among Schedule tribe and Schedule caste was same throughout this time period but it has declined got Other backward class workers by 2 per cent and increased by 1 per cent, so overall wage inequality among regular workers did not changed not by a single point. Despite the fact that regular employees have higher wages than casual workers, the inequality within the regular employees is also higher for all social groups and also at all India level.

The difference between wages of regular and casual workers is also seen in the difference of the Gini for these two employment status. In 2004-05, the Gini coefficient of regular workers was 0.18 point higher than the Gini of casual workers and by 2011-12, the different in Gini coefficient has increased to 0.19 points. In other words, from 2004-05 to 2011-12, the difference between casual wages and regular wages has become wider. Wage inequality among casual workers, is also less for every social group than regular employees in 2011-12. This difference between the inequality of casual wages and regular wages is respectively 21 per cent, 20 per cent, 18 per cent and 17 per cent for Schedule caste, Schedule tribes, Others and other backward classes.

Table 4.10 *Values of Gini coefficient among regular and casual workers, by social group, in 2004-05 and 2011-12*

Social group	2004-05			2011-12		
	Regular employee	Casual worker	Total	Regular employee	Casual worker	Total
ST	0.43	0.26	0.46	0.43	0.23	0.47
SC	0.46	0.27	0.41	0.46	0.25	0.40
OBC	0.47	0.31	0.46	0.45	0.29	0.43
Others	0.46	0.31	0.52	0.47	0.29	0.51
All	0.47	0.29	0.50	0.47	0.28	0.48

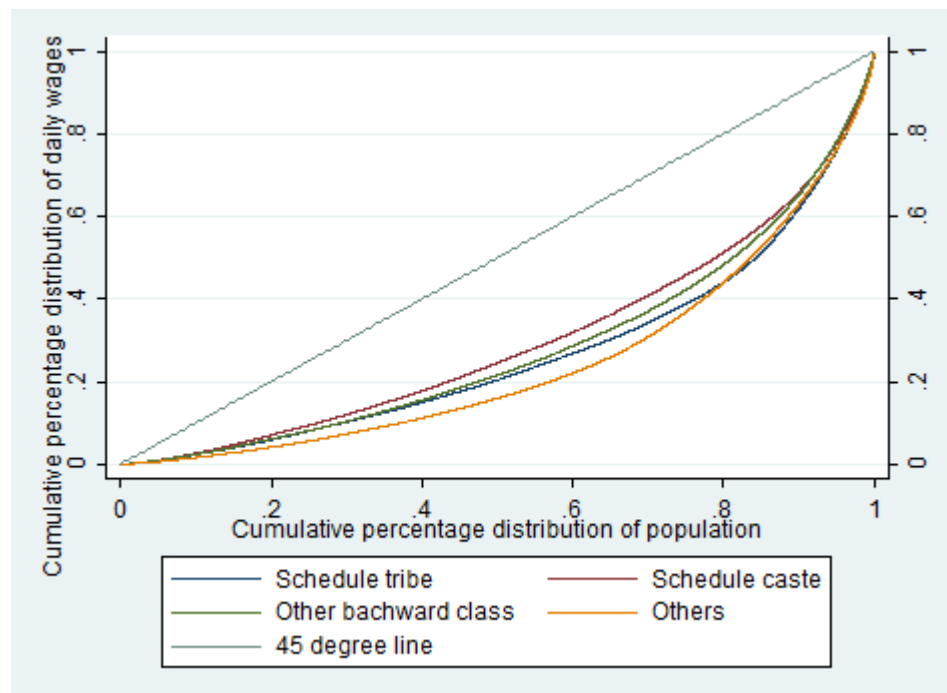
Source: Employment and unemployment survey, NSSO, 2004-05 and 2011-12

As discussed in the chapter earlier though there have been overall increase in real wages over the period from 2004-05 to 2011-12 for both casual and regular wages but this has not reduced the inequality between casual and regular employment. From 2004-05 to 2011-12, wages in India

have increased by 42.09 per cent (table 4.4) but wage inequality has decreased only by 2 per cent (table 4.10). Wages of regular workers have increased by 34.10 per cent (table 4.5) but the inequality among regular workers has remained same (table 4.10) over the period from 2004-05 to 2011-12. Though during the same period, the wages of casual workers have increased by 53.12 per cent (table 4.6) but the decrease in inequality is only 1 per cent (table 4.10).

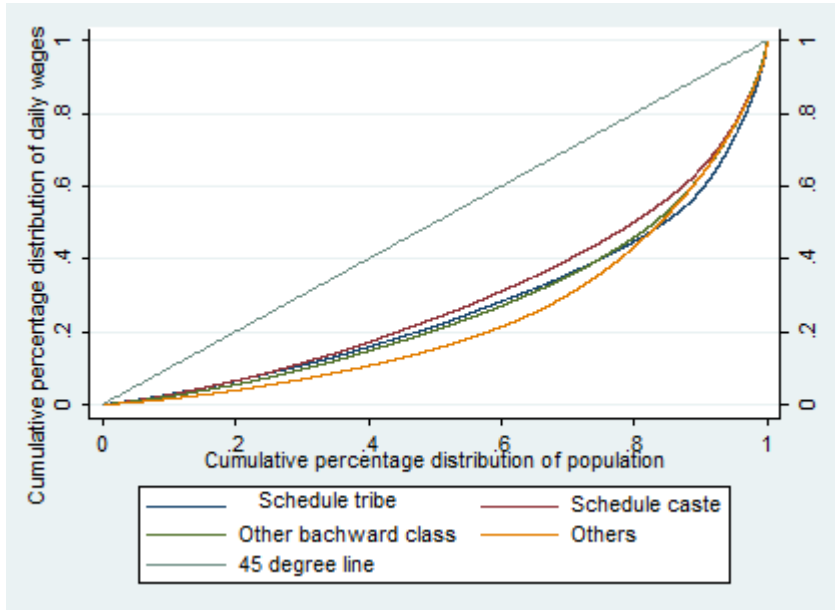
However, the higher values of Gini coefficients of wages for social groups, is showing high intra social group inequality. The Gini coefficient for schedule tribes, schedule castes, other backward classes and for Others is respectively 0.47, 0.40, 0.43, 0.51 in 2011-12. There has been a very small decrease in inter and intra social group inequality from 2004-05 to 2011-12. The decrease in intra social group inequality was only 1 per cent for Others and Schedule caste and 3 per cent for other backward class from 2004-05 to 2011-12 (table 4.10) and inequality in schedule tribe has increased slightly during time period. In 2004-05, highest wage inequality was within Others category, followed by schedule tribes, others backward classes and schedule castes. For 2011-12, this pattern of inequalities remained same as earlier, i.e., as it was in 2004-05.

Graph 4.4 Lorenz curve showing the wage inequality among different social group, 2011-12



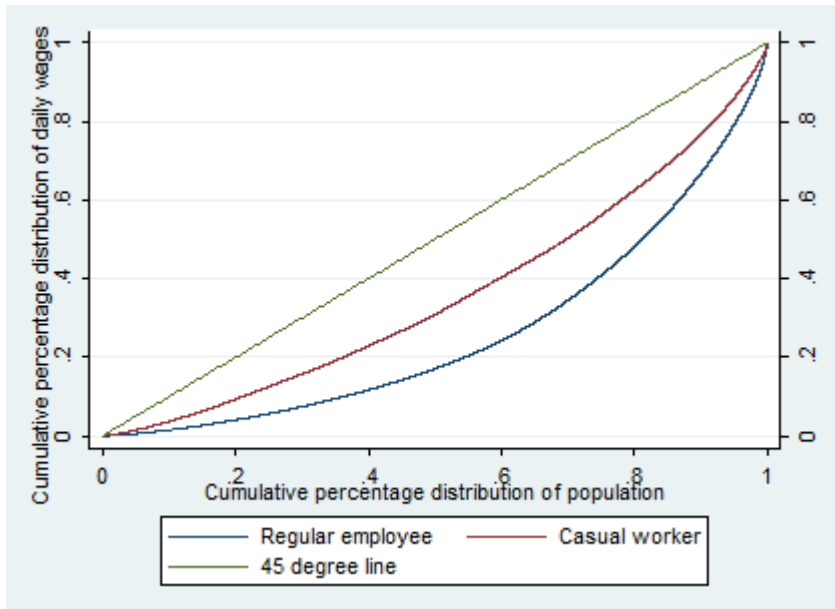
Source: Employment and unemployment survey, NSSO, 2011-12

Graph 4.5 *Lorenz curve showing the wage inequality among different social group, 2004-05*



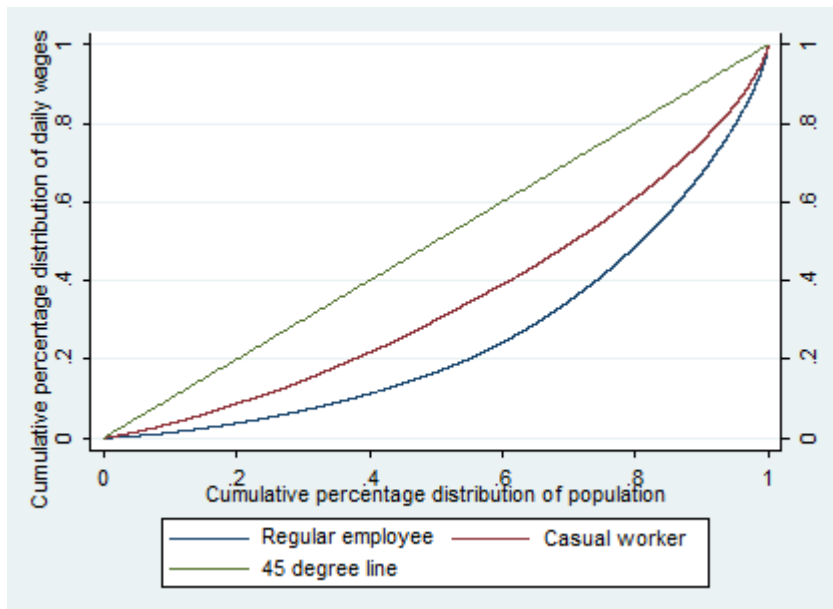
Source: Employment and unemployment survey, NSSO, 2004-05

Graph 4.6 *Lorenz curve for regular and casual wages, 2011-12*



Source: Employment and unemployment survey, NSSO, 2011-12

Graph 4.7 *Lorenz curve for regular and casual wages, 2004-05*



Source: Employment and unemployment survey, NSSO, 2004-05

On the other hand, worker from schedule tribes and schedules castes have lower average wages than other social groups (table 4.4), but their wage inequality within the groups are also lower (table 4.10) but very high within the group. And in case of Others worker, wages are higher than schedule caste and schedule tribe workers and, the wage inequality in these groups is also higher than inequality of schedule caste and schedule tribe workers.

As explained earlier, for regular and casual workers, increase in the wages of different social groups is not leading to any decrease in wage inequalities of these groups. Wages of schedule tribes, schedule castes, others backward classes and Others have respectively increased by 56.39 per cent, 48.21 per cent, 43.53 per cent and 39.32 per cent (graph 4.1) but there is no decrease in wage inequality within these groups.

Lorenz curves (graphs 4.4 and 4.5) show the inequalities among different social group for 2011-12 and 2004-05 respectively. In the beginning of graph 4.4 wage inequality is highest within Others followed by schedule tribes, other backward class and schedule caste. As moving toward end this inequality within Others starts declining and with an increase in inequality for schedule tribes but later it becomes equal for all social groups. In graph 4.5, at starting point of Lorenz

curve wage inequality was highest within Others, and lowest for schedule castes. The inequality among Schedule tribe and other backward classes was same at this point. But as moving upwards on the curve wage inequality within Others also starts decreasing as compared to all social group and became lowest at last.

Graph 4.6 and 4.7 shows the Lorenz curve for regular and casual weekly wages for two different years, 2004-05 and 2011-12. Lorenz curve (graph 4.6 and 4.7) clearly shows that the inequality among regular employees is not changing over time and within casual workers it has a negligible decrease. Similar to earlier results discussed in the chapter, graphs are also supporting the fact that wage inequalities among different employment types is also increasing and the increase in this difference is similar to decrease in casual wage inequality.

Since NSSO, collects information on wages for casual and regular workers, the data on daily wages is analyzed for these two employment types only. Tables 4.11 and 4.12 are showing the statistics of population distribution belonging to different social group according to their decile groups of weekly wage in order to understand the inter social group wage inequality. It is clear from the table that schedule tribe and schedule caste workers are more concentrated in lower deciles and Others category workers are more concentrated in higher deciles (table 4.11). 13.68 per cent workers of Others category is in the 10th decile, means this much percentage of others is falls into highest wage earning group. On the other side only 2.31 per cent workers of dalits is in highest weekly income group. Proportion of tribes and OBC workers is also very less in 10th decile as compare to others.

24.40 per cent workers from schedule tribes falls 1st decile, whereas only 8.62 per cent population of Others is in 1st decile (table 4.11). In lowest wage earning decile, schedule tribes have 15.78 per cent more people as compare to Others. 13.54 per cent workers of schedule castes falls in 1st decile and 12.44 per cent workers of backward classes is in this decile.

The highest share of schedule tribe workers is in the 1st decile. Among Schedule caste (16.17 per cent) and OBC (14.93 per cent) highest percentage of workers falls into 2nd decile but in case of Others highest percentage of workers (13.68 per cent) belongs from 10th decile, which is the

highest wage earning decile (table 4.11). The difference between share of workers from different social groups and Others, is also highest for 10th decile and in case of difference between schedule caste and Others it is highest i.e. 11.37 per cent. This distribution of workers in different daily wage deciles explain inter social group wage inequalities.

Table 4.11 *Percentage distribution of workers belonging to different social group according to daily income deciles, in 2011-12, in per cent*

Decile	Social group				All
	ST	SC	OBC	Others	
1st	24.40	13.54	12.44	8.62	12.89
2nd	21.18	16.17	14.93	9.79	14.54
3rd	13.53	15.85	12.89	10.42	13.07
4th	12.05	13.44	11.83	9.14	11.58
5th	8.15	12.11	11.66	9.73	10.96
6th	7.21	10.98	10.20	9.22	9.87
7th	4.23	7.84	9.57	10.28	8.81
8th	3.08	4.93	8.05	10.02	7.30
9th	3.67	2.82	4.44	9.11	5.13
10th	2.49	2.31	3.98	13.68	5.85

Source: Employment and unemployment survey, NSSO, 2011-12

Table 4.12 *Percentage distribution of workers belonging to different social group according to daily income deciles, in 2004-05, in per cent*

Decile	Social group				All
	ST	SC	OBC	Others	
1st	22.63	13.38	13.34	7.74	12.85
2nd	28.36	15.15	13.17	8.26	14.00
3rd	20.31	16.29	12.58	9.54	13.58
4th	3.63	15.87	14.69	9.90	12.61
5th	10.55	12.47	11.37	9.00	10.97
6th	3.76	10.36	9.98	8.98	9.18
7th	3.47	6.31	8.58	11.35	8.16
8th	2.36	4.71	7.09	10.53	6.85
9th	2.83	3.19	5.08	10.34	5.71
10th	2.11	2.27	4.12	14.35	6.08

Source: Employment and unemployment survey, NSSO, 2004-05

There is very negligible change in inter social group wage inequality from 2004-05 to 2011-12. In other words, a small proportion of workers belonging to Others and backward classes has entered into the highest weekly wage decile and in case of dalits and adivasis a small proportion has declined from 10th decline. In both 2004-05 and 2011-12, the share of workers from ST and SC categories start decline at the higher wage deciles, and reverse was the situation for Others category workers. That clear shows the inverse relation in schedule caste and schedule tribe workers with the daily wage deciles.

4.5 Role of Education in Wage Differences:

The above analysis is shows that there is large wage inequality among workers both inter and intra social groups. The inequality was persistent in different employment types as well. There are two aspect to understand these inequalities and these are education and inter sectoral growth differences (Abraham, 2007). This section is an attempt to understand the difference in wages with context of education.

Table 4.13 Average daily wage of regular workers, social group and education level, in 2011-12, in rupees

Education level	Social group				All
	ST	SC	OBC	Others	
Not literate	141.09	165.37	164.76	164.66	163.30
Below primary	173.20	188.36	190.09	190.19	188.76
Primary	196.29	196.56	180.41	202.73	191.57
Elementary	225.56	211.62	207.37	233.20	217.68
Secondary/Higher secondary	400.49	321.98	294.53	361.13	331.62
Diploma/ Graduation	571.59	486.93	501.43	692.85	598.15
Post graduation and above	663.09	634.55	657.82	990.13	835.49
All	361.11	298.75	330.46	504.37	396.36

Source: Employment and unemployment survey, NSSO, 2011-12

It is clear from tables 4.13 and 4.15 that at higher education levels, wages increase for both regular and casual workers. From elementary education level to secondary and higher secondary level, regular wages of schedule tribe have increased by almost 75 per cent and from secondary/ higher secondary to higher education this increase was 91 per cent (from Rs.361.13 to Rs.692.85). At higher educational levels, difference between regular wages also increase. This is

specifically more efficient in case of Others category workers than for all social group. Because post graduates from others category have 6.01 times higher wages than illiterates from the same category. The wage difference between post graduates and illiterates from schedule tribes is 4.70 time higher for post graduates.

Table 4.14 *Wage ratio illiterate to other education levels for regular wageworkers, in 2011-12*

Education level	Social group				All
	ST	SC	OBC	Others	
Not literate	1.00	1.00	1.00	1.00	1.00
Below primary	1.23	1.14	1.15	1.16	1.16
Primary	1.39	1.19	1.09	1.23	1.17
Elementary	1.60	1.28	1.26	1.42	1.33
Secondary/Higher secondary	2.84	1.95	1.79	2.19	2.03
Diploma/ Graduation	4.05	2.94	3.04	4.21	3.66
Post graduation and above	4.70	3.84	3.99	6.01	5.12

Source: Employment and unemployment survey, NSSO, 2011-12

On the other hand, in case of regular employment, the difference among the wage payment of different social group starts increasing with the increase in the educational levels. The wage payment of Schedule tribes regular workers are 1.11 time higher than the Others category workers only at secondary/higher secondary level, on all other educational levels Others have higher wages (table 4.14). The difference in wages of regularly employed wages at same level of educational levels explain the wage inequality among social groups for regular employees.

Table 4.15 *Average daily wage of casual works by social groups and education level, in 2011-12, in rupees*

Education level	Social group				All
	ST	SC	OBC	Others	
Not literate	110.76	131.09	129.57	131.34	127.39
Below primary	116.49	136.57	146.99	136.63	138.40
Primary	116.81	147.61	153.38	142.79	145.46
Elementary	126.84	153.15	169.74	161.59	159.29
Secondary/Higher secondary	132.91	155.13	164.57	165.83	160.21
Diploma/ Graduation	200.44	221.67	217.92	364.29	252.08
Post graduation and above	321.43	336.59	364.20	885.57	507.46
All	116.71	141.87	148.91	151.29	143.19

Source: Employment and unemployment survey, NSSO, 2011-12

With the increase in the educational level, casual wages also increases and this increase is highest for Others category workers among all social groups. The ratio of casual wages of post graduated workers to illiterates of Others category is 6.74 time higher (table 4.16). For all other social groups, this ratio of casual wages between post-graduates to illiterates remains between 2.57-2.90 times higher. All social groups have almost similar differences in casual wages with the increase in level of education.

Table 4.16 *Wage ratio of illiterates to other education level in casual employment wages, by social group, in 2011-12*

Education level	Social group				All
	ST	SC	OBC	Others	
Not literate	1.00	1.00	1.00	1.00	1.00
Below primary	1.05	1.04	1.13	1.04	1.09
Primary	1.05	1.13	1.18	1.09	1.14
Elementary	1.15	1.17	1.31	1.23	1.25
Secondary/Higher secondary	1.20	1.18	1.27	1.26	1.26
Diploma/ Graduation	1.81	1.69	1.68	2.77	1.98
Post graduation and above	2.90	2.57	2.81	6.74	3.98

Source: Employment and unemployment survey, NSSO, 2011-12

At every education level casual wages of schedules tribes are lower than others and this difference increases with every increase in educational level. Before the primary levels of education, the casual wages of schedule castes and Others category workers, is similar but at higher educational levels the difference starts increasing. Similarly, Between OBC and Others category workers, the wages remain similar till secondary and higher secondary levels but after that average wages of OBC casual workers lag behind than Other category workers.

So, therefore, at initial educational levels casual wages of among all social groups. But with the increase in the educational levels the difference between Others category workers and remaining social groups, starts increasing.

4.6 Conclusions:

It is clear from above analysis that there is large difference in the wages of regular and casual workers of different social groups, sectors, sex. The chapters points out that there is not only differences in the wage payment of regular and casual workers but also within the regular paid workers, there is higher inequalities in the payments based on gender and caste. Though implementation of MGNREGA has decreased the wage gaps between male and female workers from 2004-05 to 2007-08 (Chandrasekhar and Ghosh 2011).

Although, there is increase in wages of every social group over time but this increase was particularly higher for social groups (SCs and STs) have had comparatively lower wages in previous years, i.e., the annual rate of growth in wages of schedule tribe and schedule caste workers was higher than all other social groups. Similar was the scenario for casual wages and wages of female workers during 2004-05 to 2011-12.

The intra social group inequalities in wages is higher among regular employed workers than casually employed worker. And over the year from 2004-05 to 2011-12, there has not been any change in these intra social inequalities. The inter social group inequalities in wages are also higher in case of regular employment. However, the wage difference persistent over years in different social groups, particularly in the form of discrimination and exclusion, has worsen by the increase in the intra social and intra employment group inequalities.

The wages have increased with an annual growth rate of 5.15 per cent but this increase in wages has not being able of reduce the inequalities. On the other side, data points out that if there is not any decrease in the wage inequalities, there is also not any increase in wage inequality of any social group, not for any employment type during 2004-05 and 2011-12.

This is also clear from given analysis that level of education has positive effect on the wages as wages increase with higher level of education for every social group for both casual and regular employment. There is wage difference among casual and regular employed but inequality within these groups is higher than inter occupation.

Though education levels have positive impacts on wage rates, but the inequality in wages start rising after secondary or higher secondary level for both regular and casual workers. So, therefore the wage inequality for same educational level are persistent for not only inter-social groups but also for inter employment. However, the wage inequality for same educational level is an issue of concern because education is a source for economic and social upliftment for the schedule tribes and schedules castes.

Regional Analysis of Labour Markets

5.1 Introduction:

In the previous chapters patterns of the work force participation, wages and wage inequality have been discussed. The labour market among Indian states varies a lot, as the resource allocation in different regions have high variation in land, agriculture, population, wage rate, and work force participation etc along with different economic growth and employment structure and inter-state disparities are a distinctive feature of Indian economy and economic growth (Ramaswamy, 2007). Every state has its own characteristics of its labour market, which has different mechanism. According to neo-classical growth theory, income disparity across state will reduce as states would get close to steady state equilibrium but in India income difference are spreading across states (Rao, Shand and Kalirajan, 1999). So, for the better understanding of the Indian labour market, it is very important to understand the state disparities in the labour market. In this chapter, previously explained factors of labour market are studied with the regional context. This chapter examines the changes in the work force participation, wages and wage inequalities among different social groups in Indian states.

This chapter is also based on 61st (2004-05) and 68th (2011-12) employment and unemployment rounds of national sample survey organization (NSSO). For the purpose of this study, population of age group 15-59 years is taken. For unbiased and more accurate analysis states are further divided into two categories according to the household sample size of different social groups. 1st category of states includes those states which have minimum two hundred sample household for each social group in both survey rounds (61st and 68th). Rajasthan, Tripura, Assam, West Bengal, Jharkhand, Odisha, Chhattisgarh, Madhya Pradesh, Gujarat, Karnataka, Maharashtra, and Andhra Pradesh are included in 1st category states. And 2nd category of states includes those states which have minimum two hundred sample household for schedule caste's, other backward class's and Other's. This criteria include state of Jammu & Kashmir, Himachal Pradesh, Punjab, Uttaranchal, Haryana, Uttar Pradesh, Bihar, Kerala and Tamil Nadu in 2nd

category. All the indicators, such as work force participation, wage rates and inequalities are calculated separately for these two categories.

5.2 Employment Disparities across States:

Employment disparities across states can be understandable by these variables:

5.2.1 Work force participation:

According to International Labour Organization (ILO), work force participation is a key indicator of labour market. In 2011-12, 57 per cent of Indian population of age group 15-59 years, was in work force (table 1). There was 8 per cent decrease in the total work force participation from 2004-05 to 2011-12 in India. Though these proportions vary among states. As mentioned earlier, the structure of labour market is different in different states, and labour in Indian labour market doesn't move that freely between regions and sectors because of socio-economic reasons and specialisation in certain type of work (Narayan 1958). The difference in wages across regions is because of different economic growth rate of the states (Narayan 1984). The labour movement across states will not only change the structure of work force participation but will also decrease the wage gaps in different regions (*ibid.*). The migration of labour happens either from areas of labour surplus to the areas of labour deficit or from the areas of low wages to high wages (*ibid.*). Also, in the recent past, particularly after the green revolution, after which some states had higher growth rates, there has been large scale labour movement from less developed states to the state which are advanced in agriculture and industrial development. That is the migration from Bihar, Rajasthan, Uttar Pradesh, Madhya Pradesh etc. is happening towards Punjab, Kerala, Delhi and so on, which also shows higher labour participation in the destination states.

Among 1st category states Chhattisgarh (70.32 per cent) had highest percentage of population in the work force and Assam (50.23 per cent) had lowest percentage of population in the work force. Still across, the 1st category states, the proportion of population in work force remained above 50 per cent. Among the 2nd category states, Rajasthan, Odisha, Gujarat, Maharashtra and Andhra Pradesh had work force participation between 60 to 70 per cent, and Tripura, Assam, West Bengal, Jharkhand, Madhya Pradesh and Karnataka had 50 to 60 per cent work force

participation rate. Among the first category states, the proportion of Schedule tribe population in work force participation was highest among all social groups, in 2011-12, and only Tripura was an exception with the highest proportion of work force participation among Schedule caste population.

Table 5.1 *Work force participation rate of different social group, by states, in 2011-12, in per cent*

State	ST	SC	OBC	Others	All
1st category state					
Rajasthan	73.75	63.02	60.47	52.53	61.19
Tripura	53.44	61.34	54.42	51.62	54.62
Assam	54.99	47.68	53.68	47.53	50.23
West Bengal	62.78	58.05	51.63	55.18	56.02
Jharkhand	59.92	55.01	53.74	47.91	54.48
Odisha	76.22	61.78	56.70	49.02	60.07
Chhattisgarh	75.14	67.39	70.05	56.36	70.32
Madhya Pradesh	67.65	59.41	58.10	47.96	58.32
Gujarat	69.99	61.34	61.13	55.63	60.76
Maharashtra	73.77	60.71	61.43	58.85	61.22
Andhra Pradesh	79.17	70.60	66.34	54.64	64.93
Karnataka	67.86	58.54	58.99	56.26	58.80
2nd category state					
Jammu & Kashmir		59.89	53.45	53.37	55.05
Himachal Pradesh		72.26	66.38	71.00	71.33
Punjab		57.08	54.19	54.25	55.25
Uttaranchal		59.52	56.13	54.53	56.00
Haryana		53.46	46.10	50.74	49.96
Uttar Pradesh		57.63	54.15	45.57	52.93
Bihar		50.06	44.14	37.05	43.82
Kerala		61.58	50.30	55.22	52.78
Tamil Nadu		64.97	60.78	49.31	61.41
All India		59.46	56.80	52.44	57.00

Source: Employment and unemployment survey, NSSO, 2011-12

Across states, Andhra Pradesh had highest work force participation for both Schedule tribes and Schedule castes 79.17 per cent and 70.60 per cent respectively in 2011-12. In case of other backward class, Chhattisgarh (70.05 per cent) had highest work force participation as workers and Others category population had highest work force participation in Maharashtra (58.05 per

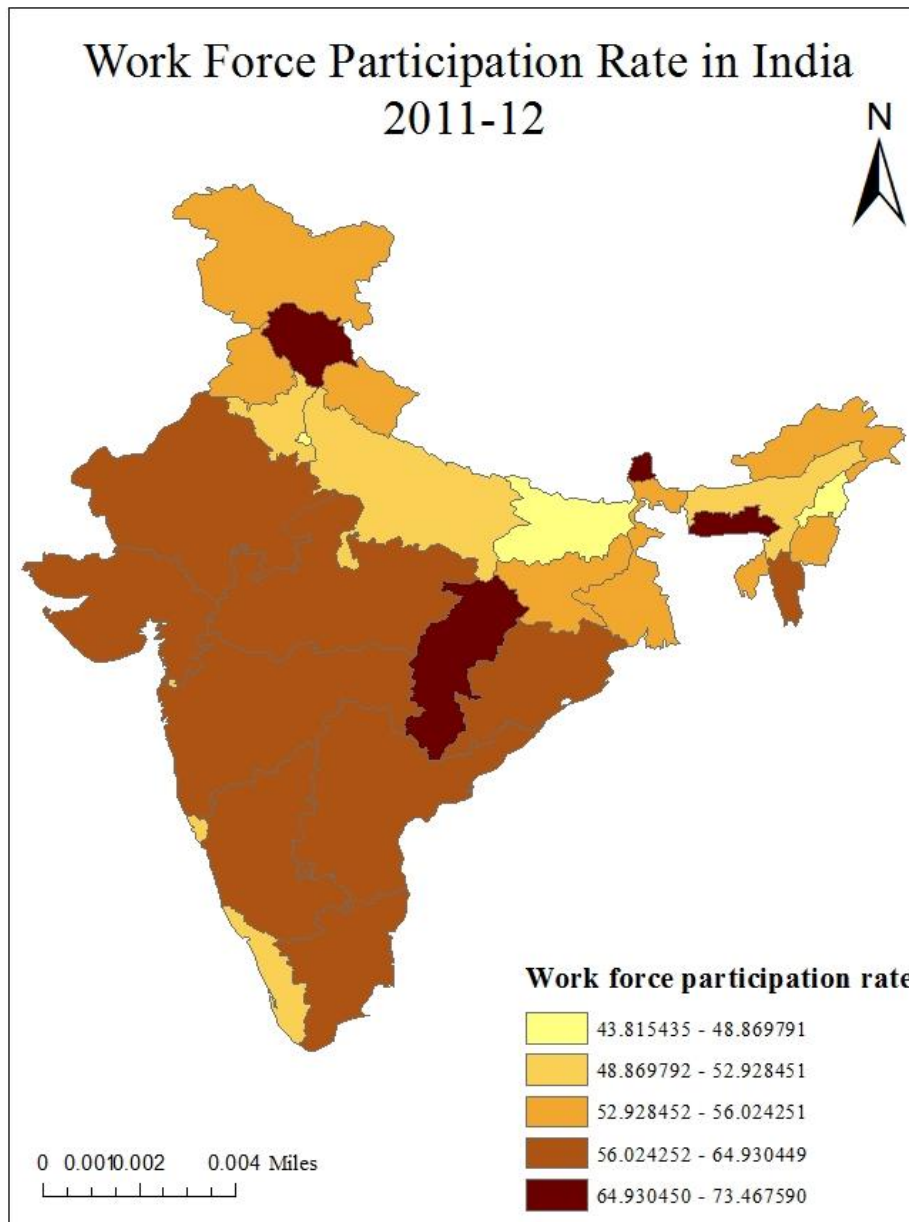
cent). Schedule tribes, Schedule castes and Other backward classes had more than 50 per cent work force participation in all states but in case of worker from Others category social group, the work force participation in some states 1st category states, such as, Assam, Jharkhand, Odisha, Madhya Pradesh, was less than 50 per cent (table 5.1).

Among 2nd category states, work force participation in Himachal Pradesh (71.33 per cent) was highest and Haryana (49.96 per cent) had lowest work force participation in 2011-12 (table 5.1). In all the 2nd category states, the work force participation was higher among the Schedule caste population as compared to population from other backward class and Others category.

Schedule caste population had more than 50 per cent participation in work force in all the 2nd category state, the proportion was highest in Himachal Pradesh (72.26 per cent) and lowest in Bihar (50.06 per cent) (table 5.1). Population from other backward classes had highest work force participation in Himachal Pradesh (66.38 per cent) and lowest in Bihar (44.14 per cent) (table 5.1). For population from OBC category, work force participation was less than 50 per cent in Haryana (46.10 per cent) and Bihar (44.14 per cent), and apart from these two states the share of population from OBC category in work force participation was more than 50 per cent. Workers from Others category had less than 50 per cent work force participation in three states, and these states are Bihar (37.05 per cent), Uttar Pradesh (45.57 per cent) and Tamil Nadu (49.31 per cent) (table 5.1). The share of population from Others category in work force participation was highest in Himachal Pradesh (71 per cent) in 2011-12 (table 5.1).

Table 5.2 shows the percentage change in work force participation among all social groups across states and table indicates that the share of work force participation for most of the states has declined from 2004-05 to 2011-12 among all social groups. For all India, the decline in the work force participation was 8 per cent (table 5.2). Though the decline in work force participation was highest among Schedules tribes (10.74 per cent) followed by Other backward classes (9.42 per cent), Schedule castes (8.90 per cent) and then Others (5.38 per cent) (table 5.2).

Map 5.1 Work force participation rate in India 2011-12



Source: Employment and unemployment survey, NSSO, 2011-12

From 2004-05 to 2011-12, among 1st category states, the work force participation declined except for Tripura, where the work force participation had an increase of 8.6 per cent. Among the 1st category states, Karnataka (12.01 per cent) had highest decline in work force participation and West Bengal (0.47 per cent) had lowest decline. Except Tripura, share of workers from Schedule tribes, Schedule castes and Other backward classes had decline in all other 1st category states (table 5.2). On the other hand, Apart from Tripura, workers from Others category had increase in work force participation in two other states, Chhattisgarh (4.81 per cent) and West Bengal (0.65 per cent) (table 5.2).

Table 5.2 *Percentage change in work force participation across social groups, by states, from 2004-05 to 2011-12, in per cent*

State	ST	SC	OBC	Others	All
1st category state					
Rajasthan	-10.91	-9.80	-13.53	-6.12	-10.49
Tripura	6.38	14.19	11.01	5.53	8.60
Assam	-8.84	-13.79	-12.37	-8.77	-9.72
West Bengal	-4.76	-0.62	-4.18	0.65	-0.47
Jharkhand	-16.94	-7.95	-10.25	-4.44	-10.66
Odisha	-6.17	-6.77	-4.98	-2.57	-5.34
Chhattisgarh	-10.37	-9.29	-6.38	4.81	-6.18
Madhya Pradesh	-16.74	-16.38	-12.17	-6.85	-11.83
Gujarat	-13.15	-15.85	-13.50	-4.79	-10.20
Maharashtra	-6.97	-7.08	-10.16	-5.92	-7.49
Andhra Pradesh	-4.25	-6.18	-10.11	-10.57	-8.70
Karnataka	-14.32	-18.38	-11.70	-9.31	-12.01
2nd category state					
Jammu & Kashmir		-5.92	-4.31	-2.12	-2.05
Himachal Pradesh		-2.26	-12.44	-4.75	-4.75
Punjab		9.52	1.71	9.94	9.05
Uttaranchal		-15.27	-5.86	-11.21	-11.25
Haryana		-12.42	-18.63	-10.03	-13.20
Uttar Pradesh		-10.28	-7.94	-5.87	-7.78
Bihar		-13.85	-9.74	-5.34	-10.45
Kerala		-1.78	-1.64	-3.93	-2.62
Tamil Nadu		-8.62	-8.50	-4.82	-8.22
All India	-10.74	-8.90	-9.42	-5.33	-8.00

Source: Employment and unemployment survey, NSSO, 2004-05 and 2011-12

Schedule tribes had highest decline of work force participation in Jharkhand (16.94 per cent) and lowest decline in Andhra Pradesh (4.25 per cent). Schedule castes had highest decline in workers percentage in Karnataka (18.38 per cent) and lowest in West Bengal (0.62 per cent). Other backward classes had lowest decline in state of West Bengal (4.18 per cent) and highest decline in Rajasthan (13.53 per cent). Others category social group had highest decline of work force participation in Andhra Pradesh (10.57 per cent) and lowest decline in Odisha (2.57 per cent).

Similarly, among 2nd category states Haryana (13.20 per cent) had highest decline in work force participation percentage from 2004-05 to 2011-12 and Jammu & Kashmir (2.05 per cent) had lowest decline (table 5.2). Punjab was the only state among the 2nd category states, which had an increase in worker force participation by 9.05 percentage, with the large variations across social groups. In Punjab during 2004-05 to 2011-12, the increase in work force participation among workers from Others category was 9.94 per cent followed by dalits (9.52 per cent) and OBCs (1.71).

From 2004-05 to 2011-12, among 2nd category states, the percentage of workers belonging to Schedule caste had highest decline in Uttaranchal (15.27 per cent) and lowest decline in Kerala (1.78 per cent). For other backward class population the decline in work force participation was highest in Haryana (18.68 per cent) and lowest in Kerala (1.64 per cent). In case of workers from Others category the decline in work force participation was highest in Uttaranchal (11.21 per cent) and lowest Jammu & Kashmir (2.12 per cent).

5.2.2 Self-employment:

Workers who works in household enterprises as own-account worker, or as an employer or as helper, are included in the category of self-employed by NSSO (GOI 2014). In 2011-12, the largest share of work force participation (50.65 per cent) in India was of self-employed workers. Though, this proportion of self-employed workers, varied across social groups and it was 55.96 per cent, 53.65 per cent, 52.9 per cent, and 35.34 per cent for workers belonging to Others, other backward class, Schedule tribes and Schedule castes categories respectively.

In 2011-12, Assam (67.41 per cent) had highest percentage of self-employed workers among the 1st category states. On the other hand, Tripura had lowest self-employed workers (39.97 per cent) in 2011-12 among the 1st category states. Though there is large variation in the self-employed workers among 1st category states, but states such as Rajasthan, Assam, Jharkhand, Odisha, Chhattisgarh, Madhya Pradesh and Gujarat had more than 50 per cent workers as self-employed and on the other hand states such as Tripura, West Bengal, Maharashtra, Andhra Pradesh and Karnataka had less than 50 per cent workers as self-employed.

Table 5.3 *Proportion of self-employed workers across social groups, by states, in 2011-12, in per cent*

State	ST	SC	OBC	Others	All
1st category state					
Rajasthan	52.09	48.30	71.53	60.84	61.87
Tripura	39.83	37.90	44.87	38.71	39.97
Assam	83.52	72.39	53.62	69.23	67.41
West Bengal	25.67	39.05	42.07	50.70	45.23
Jharkhand	72.76	45.91	64.31	59.94	62.99
Odisha	59.94	50.98	63.98	60.43	59.44
Chhattisgarh	65.24	39.04	45.49	52.08	52.04
Madhya Pradesh	49.43	40.92	63.19	62.89	56.06
Gujarat	53.97	34.38	48.54	53.03	50.12
Maharashtra	34.27	26.96	49.84	50.81	45.25
Andhra Pradesh	42.84	21.67	47.06	55.59	43.46
Karnataka	48.79	22.65	52.28	49.97	46.54
2nd category state					
Jammu & Kashmir		52.41	55.27	58.45	57.66
Himachal Pradesh		58.45	62.06	67.63	64.57
Punjab		33.39	49.18	62.68	49.65
Uttaranchal		62.37	63.36	70.19	67.71
Haryana		29.10	54.39	65.35	54.01
Uttar Pradesh		45.27	69.40	65.36	62.44
Bihar		28.02	54.82	68.14	51.46
Kerala		14.67	35.10	40.13	33.73
Tamil Nadu		15.62	34.07	23.50	29.97
All India	52.90	35.34	53.65	55.96	50.65

Source: Employment and unemployment survey, NSSO, 2011-12

However the share of self-employed workers have high variations across social groups in 1st category states (table 5.3). Workers belonging to Schedule tribe had highest self-employment in Assam (83.52 per cent) and lowest self-employment in West Bengal (25.67 per cent). Workers from Schedule caste had highest self-employment in Odisha (50.98 per cent) and lowest in Andhra Pradesh (21.67 per cent). Other backward class workers had highest percentage of self-employment in Rajasthan and lowest in West Bengal (42.07 per cent). Workers from Others category had highest self-employment in Assam (69.23 per cent) and lowest in Tripura (38.71 per cent).

Among 2nd Category states, Tamil Nadu (29.97 per cent), Kerala (33.73 per cent) and Punjab (49.65 per cent), had less than 50 per cent self-employed workers (table 5.3). On the other hand, Bihar (51.46 per cent), Haryana (54.01 per cent), Jammu & Kashmir (57.66 per cent), Uttar Pradesh (62.44 per cent), Himachal Pradesh (64.57 per cent), and Uttaranchal (67.71 per cent), had more than 50 per cent workers as self-employed among 2nd category states (table 5.3). Workers from Schedule castes had more than 50 per cent self-employment in Jammu & Kashmir, Himachal Pradesh and Uttaranchal. The share of self-employed workers from schedule caste was less than 50 per cent in Punjab, Haryana, Uttar Pradesh, Bihar, Kerala and Tamil Nadu. In case of workers from other backward class, the share of self-employed workers in Jammu& Kashmir, Uttaranchal, Haryana, Uttar Pradesh and Bihar was more than 50 per cent. In Punjab, Kerala and Tamil Nadu, the share was less than 50 per cent. In case of Others category workers more than 50 per cent workers had self-employment in Jammu & Kashmir, Himachal Pradesh, Punjab, Uttaranchal, Haryana, Uttar Pradesh and Bihar states.

From 2004-05 to 2011-12, at all India level, the share of self-employment among workers has declined by 4.55 per cent (table 5.4) except workers from schedule tribe, which have had a negligible increase (0.57 per cent) in the self-employed workers, for all other social groups the proportion of self-employed workers has gone down. Among the 1st category states Odisha, Chhattisgarh, Gujarat, Maharashtra and Karnataka had a small increase in self-employed workers. On the other hand Rajasthan, Tripura, Assam, West Bengal, Jharkhand, Madhya Pradesh and Andhra Pradesh had a decline in self-employed workers and this decline was highest in Tripura. Though the pattern of self-employment has variation across social groups in 1st

category states, where workers from ST category have had an increase in self-employment in most of the state except Rajasthan, Tripura, West Bengal and Andhra Pradesh. For SC category workers also had an increase in most states except Rajasthan, Tripura, West Bengal, Jharkhand and Karnataka where percentage of self-employed works has declined.

Table 5.4 *Percentage change in self-employed workers across social groups, by states, from 2004-05 to 2011-12, in per cent*

State	ST	SC	OBC	Others	All
1st category state					
Rajasthan	-16.06	-8.37	-9.62	-8.12	-10.00
Tripura	-11.31	-8.02	-7.54	-13.02	-10.16
Assam	1.84	10.59	-1.81	0.68	-0.38
West Bengal	-2.33	-4.84	-21.50	-5.96	-6.35
Jharkhand	0.50	-4.02	-5.20	-0.24	-3.43
Odisha	8.67	5.73	0.95	1.17	3.91
Chhattisgarh	1.51	7.19	-0.87	-1.14	1.55
Madhya Pradesh	3.64	3.58	-4.20	-2.41	-0.92
Gujarat	13.95	14.01	-6.03	-6.34	0.73
Maharashtra	1.81	1.00	3.97	-3.74	0.20
Andhra Pradesh	-6.16	2.50	-1.87	-4.13	-2.74
Karnataka	11.28	-6.97	2.68	-2.97	0.71
2nd category state					
Jammu & Kashmir		-18.62	-20.48	-11.52	-13.30
Himachal Pradesh		-3.97	-12.49	-4.94	-5.73
Punjab		-5.07	-8.84	-9.70	-7.73
Uttaranchal		3.62	-3.54	-8.96	-5.22
Haryana		-7.73	-11.73	-7.43	-8.03
Uttar Pradesh		-12.37	-8.81	-5.61	-9.01
Bihar		-4.74	-12.14	-9.01	-7.62
Kerala		-4.09	-7.23	-8.47	-6.77
Tamil Nadu		-5.00	-11.94	-18.04	-10.04
All India	0.57	-3.09	-6.46	-5.02	-4.55

Source: Employment and unemployment survey, NSSO, 2004-05 to 2011-12.

On the other hand, for workers from OBC category among 1st category states, the share of self-employment has declined for most states except Odisha, Maharashtra and Karnataka where it has shown a small increase in self-employment, similarly, in case of workers from Others category, the proportion of self-employment has decreased among all states except Assam. Above

discussion shows that despite the decline in self-employment among the workers from Others and OBCs from 2004-05 to 2011-12, these social groups still have had the highest proportion of self-employed workers and on the other hand workers from SC category lag far behind in self-employment despite an increase during this period (tables 5.3 and 5.4).

5.2.3 Regular employment:

The worker who is employed either on regular wages or salaries are considered as regular employees by NSSO (GOI 2014).

Table 5.5 *Proportion of regularly employed workers across social groups, by states, in 2011-12, in per cent*

State	ST	SC	OBC	Others	All
1st category state					
Rajasthan	4.58	12.24	12.00	30.34	13.99
Tripura	9.21	15.84	14.82	17.14	13.67
Assam	6.38	13.34	23.02	12.86	14.77
West Bengal	13.42	13.70	17.37	19.39	17.25
Jharkhand	5.84	8.76	10.77	24.11	10.98
Odisha	4.01	10.56	10.54	24.36	11.47
Chhattisgarh	6.04	9.16	10.34	34.12	10.11
Madhya Pradesh	5.61	10.65	11.00	25.23	11.99
Gujarat	10.47	33.63	21.21	40.26	26.12
Maharashtra	14.39	29.51	26.10	33.02	28.33
Andhra Pradesh	9.42	18.22	17.59	27.84	19.31
Karnataka	12.93	18.75	22.77	33.68	23.77
2nd category state					
Jammu & Kashmir		23.04	20.59	22.86	22.17
Himachal Pradesh		19.90	16.20	23.71	20.52
Punjab		25.19	31.16	31.50	29.13
Uttaranchal		10.37	18.31	22.27	18.59
Haryana		19.68	23.32	28.93	25.27
Uttar Pradesh		8.56	8.75	22.76	11.52
Bihar		5.19	4.54	13.42	6.15
Kerala		17.76	22.28	33.50	24.64
Tamil Nadu		23.63	27.70	58.95	27.31
All India	9.31	16.32	16.97	27.99	19.05

Source: Employment and unemployment survey, NSSO, 2011-12

Regular employment is one of the most secure modes of employment in labour market as workers who are employed on regular wages, have least fluctuations in employment. In India, The proportion of workers employed on regular wages is only 19.05 per cent. The workers belonging to ST category (9.71 per cent) have lowest share in workers employed on regular basis. The share of workers from Others category (27.99 per cent) was highest among the regular employed workers in all India. Around 16 per cent workers from each SC and OBC category were employed on regular basis.

Among the 1st category states Maharashtra have highest share of regularly employed workers followed by Gujarat, Karnataka, Andhra Pradesh, West Bengal, Assam, Rajasthan, Tripura, Madhya Pradesh, Odisha, Jharkhand and Chhattisgarh. The highest share of workers employed on regular basis was among ST and OBC workers was in Maharashtra, Similarly for workers from SC, and Others category the share was highest in Gujarat, . On the other hand, lowest proportion of workers employed on regular basis from ST, SC, OBC and Others categories was in Rajasthan, Jharkhand, Chhattisgarh and Assam respectively (table 5.5).

In 2011-12, among 2nd category states highest proportion of regularly employed workers was in Punjab (29.13 per cent) followed by Tamil Nadu, Haryana, Kerala, Jammu& Kashmir, Himachal Pradesh, Uttaranchal, Uttar Pradesh and Bihar. Bihar had only 6.15 per cent workers employed on regularly basis which was lowest among both category 1 and 2 states. Punjab had highest proportion of SC category workers employed on regular basis among 2nd category states and it was followed by Tamil Nadu, Jammu& Kashmir, Himachal Pradesh, Haryana, Kerala, Uttaranchal, Uttar Pradesh and Bihar (table 5.5). For workers employed on regular basis from OBC category had the highest proportion in Punjab followed by Tamil Nadu, Haryana, Kerala, Jammu &Kashmir, Uttaranchal, Himachal Pradesh, Uttar Pradesh and Bihar. The proportion of workers from Others category workers employed on regular basis was highest in Tamil Nadu followed by Kerala, Punjab, Haryana, Himachal Pradesh, Jammu &Kashmir, Uttar Pradesh, Uttaranchal and Bihar (table 5.5). In Bihar, the proportion of workers employed on regular basis was lowest for all social groups in 2nd category states (table 5.5).

During the period from 2004-05 to 2011-12, all the states from 1st category, had an increase in the regular employment except Tripura (table 5.5). Unlike other states from 1st category, Tripura had a decline of 1.82 per cent in the regular employment. The Highest percentage increase in the regular employment was in Karnataka followed by Gujarat, Maharashtra and Andhra Pradesh. The remaining states in the 1st category, Rajasthan, Assam, West Bengal, Jharkhand, Odisha, Chhattisgarh and Madhya Pradesh, had a small increase (below 3 per cent) in the regular employment (table 5.5). Workers from Others category had decline in regular employment in Tripura and Chhattisgarh only, among all other states of 1st category states, the regular employment had an increase from 2004-05 to 2011-12.

Table 5.6 *Percentage change in regular employees across social groups, by states, 2004-05 to 2011-12, in per cent*

State	ST	SC	OBC	Others	All
1st category state					
Rajasthan	-0.91	0.55	3.47	8.15	2.76
Tripura	-0.26	2.54	0.44	-5.86	-1.82
Assam	-0.67	1.27	2.61	0.83	2.03
West Bengal	-5.24	2.32	1.29	2.33	1.62
Jharkhand	2.28	-0.57	3.00	0.58	2.10
Odisha	0.25	3.43	1.12	3.76	2.18
Chhattisgarh	2.13	0.07	2.46	-1.08	1.35
Madhya Pradesh	2.21	-0.74	1.63	0.11	0.72
Gujarat	0.77	12.61	8.35	12.67	8.22
Maharashtra	5.85	6.44	7.56	4.97	6.07
Andhra Pradesh	1.73	6.71	4.96	9.89	5.84
Karnataka	6.80	9.67	10.21	12.91	9.76
2nd category state					
Jammu & Kashmir		6.80	6.78	3.39	3.94
Himachal Pradesh		7.93	4.41	5.11	4.96
Punjab		1.21	11.36	8.66	6.30
Uttaranchal		-3.81	5.70	5.45	3.51
Haryana		2.88	2.48	4.82	3.98
Uttar Pradesh		2.33	0.74	0.59	0.90
Bihar		1.96	0.16	4.86	1.53
Kerala		1.08	3.47	5.78	3.82
Tamil Nadu		4.32	5.21	4.52	4.57
All India	2.14	3.31	4.15	5.07	3.89

Source: Employment and unemployment survey, NSSO, 2004-05 and 2011-12.

For workers from Other backward class the regular employment increased in all states and highest share of increase was in the Karnataka followed by Gujarat and Maharashtra. Rest all states from 1st category states had an increase below 5 per cent in the regular employment for OBCs. Except Jharkhand and Madhya Pradesh regular employment for SC category workers also had an increase. Though decline in regular employment in these two states was negligible (less than 1 per cent). Gujarat had highest increase in regular employment among SC category workers, followed by Karnataka, Andhra Pradesh and Maharashtra. Remaining all other states had less than 4 per cent increase in the regular employment for workers from SC category. For workers from ST category, the proportion of workers employed on regular basis has declined in four states from 2004-05 to 2011-12, in case of Rajasthan, Tripura, and Assam the decline was below 1 per cent, but in case of West Bengal the decline was 1.62 per cent (table 5.5) . On the other hand the increase in the regular employment for ST category workers was 6.8 per cent and 5.85 per cent for Karnataka and Maharashtra respectively, and for all other remaining states in 1st category, it was below 2.5 per cent.

During 2004-05 to 2011-12, among 2nd category states Punjab had highest increase in regular employment followed by Himachal Pradesh, Tamil Nadu, Haryana, Kerala, Jammu& Kashmir, Uttaranchal, Bihar and Uttar Pradesh. Though the increase in regular employment in Uttar Pradesh was less than 1 per cent. The regular employment among 2nd category state had an increase across social groups among all states except SC category workers in Uttaranchal where it had a decline of 3.81 per cent in regular employment. Among the 2nd category states, the highest increase in the regular employment of SC category workers was in Himachal Pradesh and among, OBC and Others category workers was in Punjab. On the other hand, the lowest increase in regular employment for workers belonging to SC, OBC and Others category was in Kerala, Bihar and Uttar Pradesh respectively (table 5.6).

5.2.4 Casual employment:

The worker who does not have certain job or employment, and his or her occupation, wages etc are also not fixed, is generally included in the casual work force (GOI 2014). Casual employment generally and mostly exists in primary and secondary sector. In all India 30.29 per

cent workers were casually employed in 2011-12, with the highest proportion among SCs (48.34 per cent) followed by STs (37.79 percent), OBCs (29.37 per cent) and Others (16.04 per cent).

Table 5.7 *Proportion of casually employed workers across social groups, by states, in 2011-12, in per cent*

State	ST	SC	OBC	Others	All
1st category state					
Rajasthan	43.33	39.45	16.47	8.82	24.14
Tripura	50.96	46.26	40.30	44.15	46.36
Assam	10.10	14.28	23.37	17.91	17.82
West Bengal	60.91	47.24	40.55	29.91	37.52
Jharkhand	21.40	45.33	24.92	15.96	26.03
Odisha	36.05	38.46	25.47	15.21	29.09
Chhattisgarh	28.72	51.79	44.17	13.80	37.84
Madhya Pradesh	44.96	48.44	25.81	11.88	31.95
Gujarat	35.56	31.99	30.25	6.71	23.76
Maharashtra	51.34	43.53	24.06	16.17	26.42
Andhra Pradesh	47.74	60.12	35.35	16.58	37.23
Karnataka	38.28	58.60	24.95	16.35	29.68
2nd category state					
Jammu & Kashmir		24.55	24.14	18.69	20.18
Himachal Pradesh		21.66	21.74	8.67	14.91
Punjab		41.43	19.66	5.82	21.22
Uttaranchal		27.25	18.34	7.54	13.70
Haryana		51.22	22.29	5.72	20.71
Uttar Pradesh		46.17	21.85	11.88	26.04
Bihar		66.79	40.65	18.45	42.39
Kerala		67.57	42.63	26.37	41.64
Tamil Nadu		60.75	38.23	17.55	42.72
All India	37.79	48.34	29.37	16.04	30.29

Source: Employment and unemployment survey, NSSO, 2011-12

Like self-employment and regular employment, percentage of casually employed workers also varies across states. Among 1st category states, Tripura had highest share of casually employed workers (46.36 per cent) on the other hand Assam had lowest share of casually employed (17.82 per cent) workers (table 5.7). For workers belonging to schedule tribes had highest proportion of casual employed workers in west Bengal (60.91 per cent) and lowest in Assam (10.10 per cent). Among workers from SC category, the highest share of casually employed workers was in

Andhra Pradesh (60.12 per cent) and lowest in Assam (14.28 per cent) among 1st category states. In case of OBC category worker employed on casual basis the highest share was in Chhattisgarh and lowest was in Rajasthan and among workers from Others category the highest proportion of casually employed workers was in Tripura (44.15 per cent) and lowest in Gujarat (6.71 per cent) (table 5.7).

In 2011-12, among 2nd category states Tamil Nadu (42.72 per cent) had highest proportion of workers employed on casual basis, followed by Bihar, Kerala, Uttar Pradesh, Haryana, Jammu & Kashmir, Himachal Pradesh, Punjab and Uttaranchal (table 5.7). Though the largest proportion of workers employed on casual basis from SC, OBC and Others category was in Kerala. On the other hand, lowest proportion of casually employed workers in 2011-12 from SC and OBC was in Himachal Pradesh and in case of Others category workers the lowest proportion was in Haryana (5.72 per cent) (table 5.7).

From 2004-05 to 2011-12, at all India level casual employment had very small increase in casual employment for workers. And among the 1st category states most states had decline in the proportion of casually employed workers but on the other hand Rajasthan, Tripura, West Bengal, Jharkhand and Madhya Pradesh had increase in the proportion of casually employed workers (table 5.8). The increase in the casual workers was highest in Tripura (11.98 per cent) in Tripura and on the other hand Madhya Pradesh had very negligible increase (0.20 per cent). In case of workers from ST category workers, Karnataka had highest decline of 18.08 per cent in casual employment and on the other in Rajasthan had increase of 16.97 per cent in casual employment among 1st category states (table 5.8). Similarly, across other 1st category states, there was high variation in changes occurred in the casually employment among ST category workers. In case of SC category workers, Gujarat had highest decline of 26.62 per cent in casual employed workers, and on the other handsome states like Rajasthan, Tripura, West Bengal and Jharkhand had increase in the proportion of casually employed workers among 1st category states (table 5.8). Workers belonging to OBC category had highest increase in casual employment in West Bengal (20.20 per cent). On other hand highest decline in casual employment among OBC category workers happened in Karnataka (table 5.8). And Others category workers had highest

increase in casual employment in Tripura and highest decline in casual employment was in Karnataka.

Table 5.8 Percentage change in casual workers across social groups, by states, from 2004-05 to 2011-12, in per cent

State	ST	SC	OBC	Others	All
1st category state					
Rajasthan	16.97	7.83	6.15	-0.03	7.24
Tripura	11.57	5.48	7.10	18.88	11.98
Assam	-1.17	-11.86	-0.80	-1.51	-1.64
West Bengal	7.57	2.52	20.20	3.63	4.72
Jharkhand	-2.79	4.59	2.20	-0.34	1.33
Odisha	-8.92	-9.16	-2.07	-4.93	-6.09
Chhattisgarh	-3.64	-7.26	-1.59	2.22	-2.90
Madhya Pradesh	-5.85	-2.84	2.56	2.30	0.20
Gujarat	-14.72	-26.62	-2.32	-6.34	-8.94
Maharashtra	-7.67	-7.44	-11.52	-1.23	-6.27
Andhra Pradesh	4.43	-9.20	-3.08	-5.77	-3.10
Karnataka	-18.08	-2.70	-12.89	-9.93	-10.47
2nd category state					
Jammu & Kashmir		11.83	13.69	8.13	9.36
Himachal Pradesh		-3.97	8.08	-0.17	0.76
Punjab		-15.91	-0.44	3.88	-4.89
Uttaranchal		0.19	-2.17	3.51	1.72
Haryana		4.85	9.25	2.61	4.05
Uttar Pradesh		10.04	8.07	5.03	8.11
Bihar		2.78	11.98	4.15	6.09
Kerala		3.00	3.76	2.69	2.95
Tamil Nadu		0.68	6.73	13.69	5.47
All India	-2.71	-0.22	2.31	-0.04	0.66

Source: Employment and unemployment survey, NSSO, 2004-05 and 2011-12

In case of the 2nd category states only Punjab had decrease in casually employed workers, all other states had increase in casual employment among workers from 2004-05 to 2011-12 (table 5.8). For workers from Others category only Himachal Pradesh had decline in casual employment, and all other states from 2nd category states had increase in proportion of casual employment. Other than Punjab and Uttaranchal, workers from OBC category had increase in

casual employment in all other 2nd category states. And except Punjab (15.91 per cent) and Himachal Pradesh (3.97 per cent) SC workers had increase in casual employment in all other 2nd category states (table 5.8). Among all states, the casual employment for workers from SC category, declined sharply in Gujarat (26.62 per cent) and in Punjab (15.91 per cent) (table 5.8).

5.3 Wages across States

In this section, this wages for different social groups across both 1st and 2nd category states are discussed, along with the discussion on disparities in wage distribution. The information collected on wages as part of NSSO is discussed in chapter 1 and 4. The regional difference in the wages occurs because of the different supply and demand of labour. Also over the year with the decrease in the households with operational holdings, the states where the proportion of landless households are increasing, are labour supplying areas (Rawal 2013 and Narayan 1958).

5.3.1 Average daily wages

In 2011-12, in all India, average daily wage of a worker was Rs.253.19 in India. Though the average daily wage high variation across social groups and states. Among 1st category states, average daily wage of a worker was highest in Maharashtra (Rs. 316.85) and lowest average daily wage was in Chhattisgarh (Rs. 146.31). The worker in Maharashtra had more than twice daily wage as compare to worker from Chhattisgarh in 2011-12. Across states, the wages differ for social groups. The difference between highest and lowest daily wage was almost double for all social group. Rajasthan, Tripura, Assam, West Bengal, Odisha, Chhattisgarh, Madhya Pradesh, Gujarat, Andhra Pradesh, most of the 1st category states had lower average daily wage as compared to all India average wage (table 5.9).

On the other hand, among 2nd category states workers from Haryana had highest average daily wage (Rs. 444.71), and worker from Bihar had lowest average daily wage (Rs. 157.27). Worker from SC and OBC category in Uttar Pradesh and Bihar, had lower average wages as compared to all India average wage. Average wage of Others category workers in Haryana state was almost twice the all India average daily wage Others category workers (table 5.9).

Table 5.9 Average daily wage (person) across social group, by states, 2011-12, in rupees

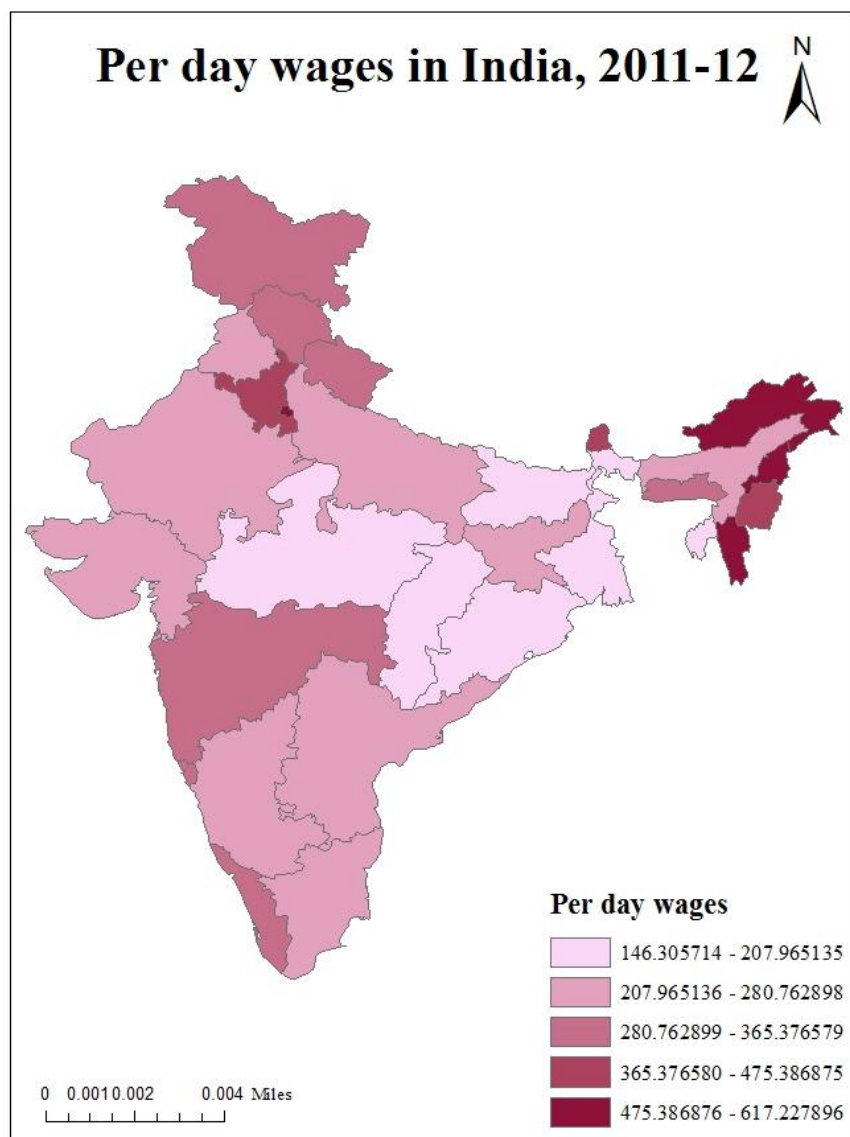
State	Social group				All
	ST	SC	OBC	Others	
1st category states					
Rajasthan	170.08	221.86	218.06	401.79	248.92
Tripura	183.62	193.88	223.45	224.39	203.44
Assam	269.57	270.12	193.80	281.10	244.41
West Bengal	147.75	166.90	184.28	245.10	207.97
Jharkhand	177.28	188.10	241.13	524.02	257.39
Odisha	135.36	170.08	180.94	304.42	195.99
Chhattisgarh	148.37	118.35	125.38	354.53	146.31
Madhya Pradesh	135.58	147.56	175.19	398.84	194.78
Gujarat	145.91	220.05	178.00	314.42	219.43
Maharashtra	160.77	228.90	274.45	436.99	316.85
Andhra Pradesh	148.81	178.33	206.75	359.27	222.06
Karnataka	198.37	186.51	257.85	401.02	266.80
2nd category states					
Jammu & Kashmir		220.43	309.96	363.42	338.95
Himachal Pradesh		262.34	264.73	354.00	306.15
Punjab		213.89	240.28	383.83	280.76
Uttaranchal		215.26	236.72	449.99	353.42
Haryana		229.48	311.50	712.96	444.71
Uttar Pradesh		156.48	184.36	438.83	228.53
Bihar		140.33	141.49	281.21	157.27
Kerala		298.07	317.62	433.85	341.99
Tamil Nadu		193.24	265.81	518.85	253.95
All India	175.73	188.16	223.57	387.80	253.19

Source: Employment and unemployment survey, NSSO, 2011-12

5.3.2 Growth in wages:

From 2004-05 to 2011-12 compound annual wage growth was 5.12 per cent in all India. Among 1st category states, except Jharkhand and Chhattisgarh all states have positive annual growth rate in wages. Jharkhand and Chhattisgarh had negative annual growth rate and wages among these two states have declined annually by 0.80 per cent and 1.87 per cent during 2004-05 and 2011-12(table 5.10). West Bengal had lowest annual growth rate and Andhra Pradesh have highest annual growth rate in daily wages. Wages for ST category worker had positive growth among all 1st category states but in case of workers from SC category there was negative growth rate in wages in Jharkhand and Chhattisgarh.

Map 5.2 Wage rates in India 2011-12



Source: Employment and unemployment survey, NSSO, 2004-05 and 2011-12

Though wages of OBC workers had a decline from 2004-05 to 2011-12 in Rajasthan but the decline in the wages was very small. Wages of Others category workers had a decline in four states, West Bengal, Jharkhand, Odisha and Chhattisgarh (table 5.10). Rate of decline in Others category workers was very small in West Bengal and Odisha, but Chhattisgarh had decline rate of 6.75 per cent annually (table 5.10).

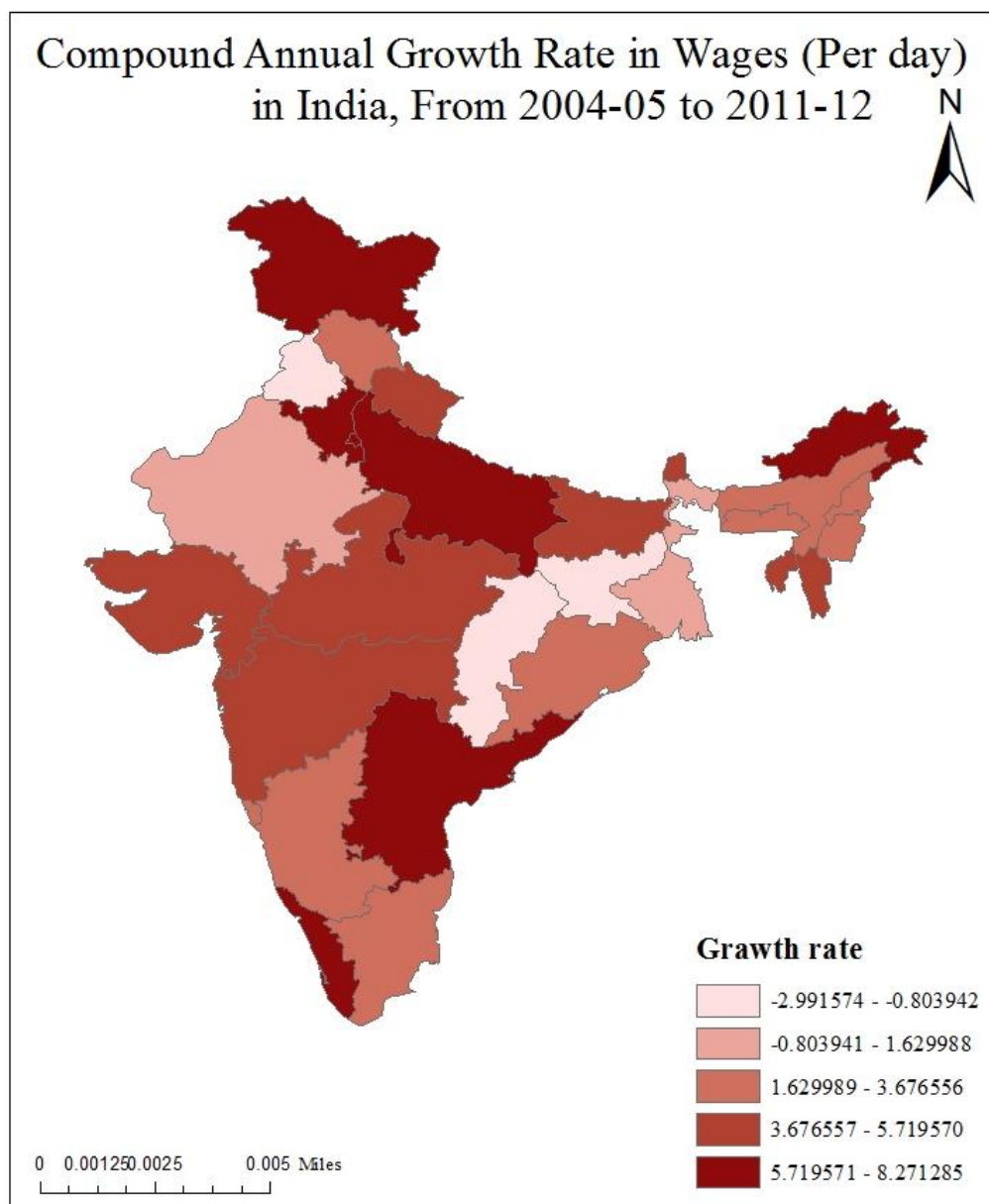
Table 5.10 *Compound growth rate of wage across social groups, by states, from 2004-05 to 2011-12, in per cent*

State	Social group				All
	ST	SC	OBC	Others	
1st category states					
Rajasthan	1.35	3.42	-0.05	1.31	1.22
Tripura	4.76	6.96	7.75	3.59	5.29
Assam	5.54	8.49	2.77	3.67	3.60
West Bengal	5.33	2.34	0.21	-0.47	0.27
Jharkhand	2.49	-0.40	1.03	-2.65	-0.80
Odisha	6.56	6.80	2.85	-0.75	3.63
Chhattisgarh	3.91	-1.69	0.50	-6.75	-1.87
Madhya Pradesh	7.76	6.75	6.33	4.67	5.72
Gujarat	3.76	9.31	4.59	4.32	5.26
Maharashtra	5.07	4.98	6.03	5.25	5.45
Andhra Pradesh	4.66	8.32	7.47	7.31	6.98
Karnataka	9.04	5.06	4.84	1.60	2.90
2nd category states					
Jammu & Kashmir		3.71	4.15	7.10	6.48
Himachal Pradesh		4.56	2.90	2.34	2.64
Punjab		-0.98	-1.99	-5.55	-2.99
Uttaranchal		4.27	1.53	4.76	4.92
Haryana		5.68	7.70	7.81	8.11
Uttar Pradesh		6.77	6.66	11.71	8.06
Bihar		7.97	2.79	4.26	5.27
Kerala		7.74	7.27	10.76	8.27
Tamil Nadu		5.46	3.87	-5.31	3.00
All India		5.78	5.30	4.85	5.15

Source: Employment and unemployment survey, NSSO, 2004-05 and 2011-12

From 2004-05 to 2011-12, among 2nd category states, Punjab had only negative annual growth rate (2.99 per cent) of wages.

Map 5.3 Compound annual growth rate in daily wages in India, from 2004-05 to 2011-12



Source: Employment and unemployment survey, NSSO, 2004-05 and 2011-12

Though, wages in Kerala had an increase of 8.27 per cent annually. Wages of workers belonging to Others category had decline in Punjab and Tamil Nadu by more than 5 per cent annually. From 2004-05 to 2011-12, Uttar Pradesh had Highest increase in wage rate of Others category workers (table 5.10). In Punjab, the wages of workers from SC and OBC category also had a decline, though the wages for SC and OBC category had highest annual increase in Bihar and Haryana respectively.

5.3.3 Disparity in wages

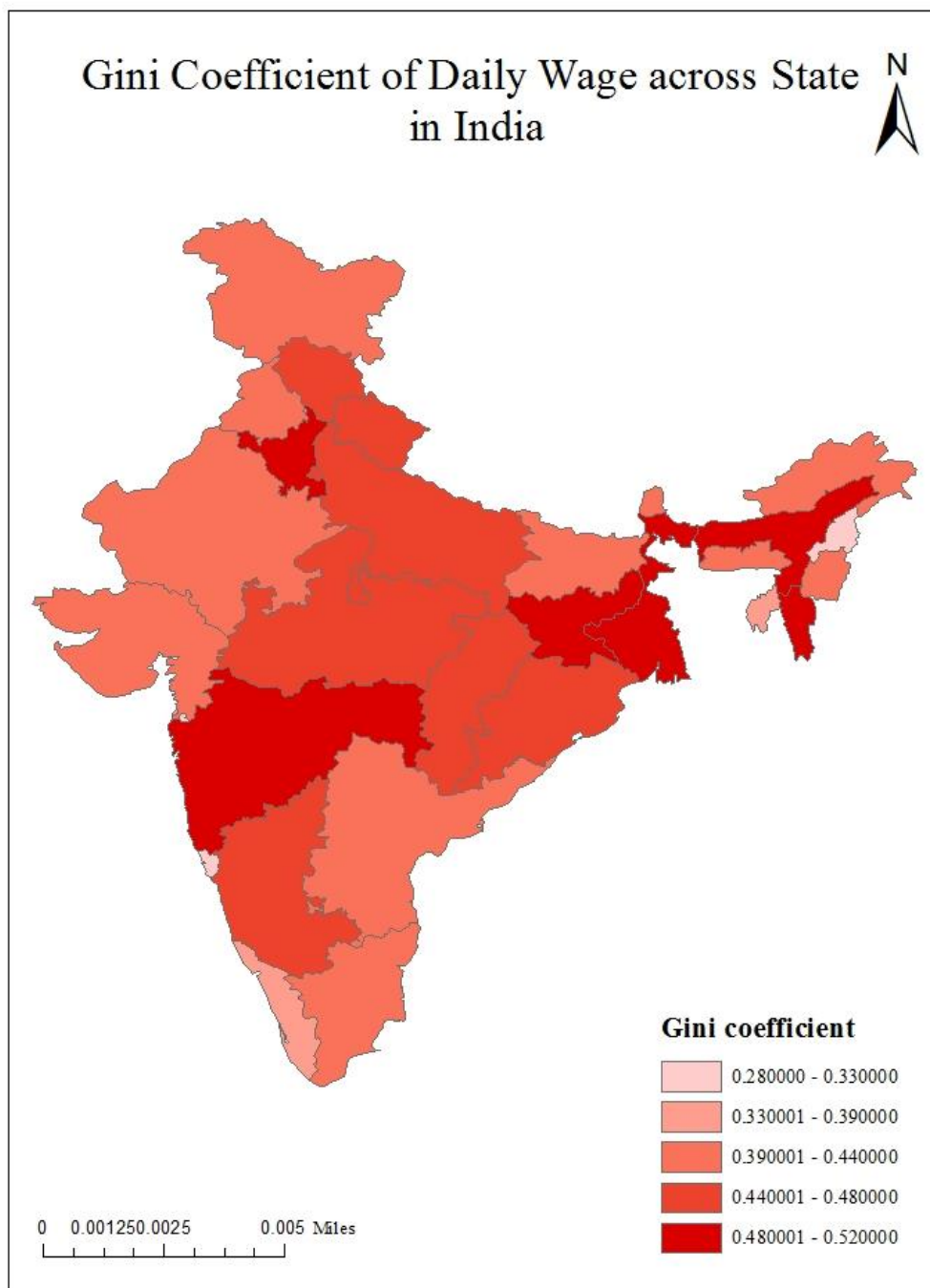
There is high wage inequality in Indian states and also among the social groups. The wage inequality has been analysed by using Gini coefficients.

Table 5.11 *Value of Gini coefficient across social groups, by states, in 2011-12*

State	Social group				All
	ST	SC	OBC	Others	
1st category states					
Rajasthan	0.43	0.35	0.38	0.45	0.44
Tripura	0.30	0.32	0.41	0.39	0.35
Assam	0.49	0.47	0.50	0.50	0.51
West Bengal	0.48	0.44	0.47	0.53	0.51
Jharkhand	0.45	0.41	0.49	0.55	0.52
Odisha	0.36	0.40	0.41	0.49	0.45
Chhattisgarh	0.50	0.38	0.42	0.48	0.48
Madhya Pradesh	0.40	0.37	0.45	0.48	0.47
Gujarat	0.46	0.44	0.39	0.41	0.44
Maharashtra	0.42	0.46	0.47	0.53	0.52
Andhra Pradesh	0.41	0.37	0.42	0.48	0.44
Karnataka	0.41	0.36	0.43	0.50	0.45
2nd category states					
Jammu & Kashmir		0.35	0.37	0.42	0.41
Himachal Pradesh		0.44	0.39	0.46	0.45
Punjab		0.32	0.38	0.48	0.43
Uttaranchal		0.35	0.36	0.46	0.46
Haryana		0.34	0.41	0.49	0.50
Uttar Pradesh		0.31	0.41	0.54	0.48
Bihar		0.35	0.36	0.50	0.43
Kerala		0.33	0.32	0.45	0.37
Tamil Nadu		0.33	0.41	0.45	0.41
All India	0.48	0.40	0.43	0.51	0.48

Source: Employment and unemployment survey, NSSO, 2011-12

Map 5.4 Wage rates in India 2011-12



Source: Employment and unemployment survey, NSSO, 2004-05 and 2011-12

Value of all India Gini coefficient was 0.48 in 2011-12, which illustrate high wage inequality in India (table 5.11). Among 1st category states Tripura had least wage inequality among all states and Jharkhand has highest wage inequality among these states. Tripura have least wage inequality for ST and SC workers as well on the other hand, OBC category workers in Rajasthan had lowest wage inequalities. Though, the highest wage inequality among workers from ST, SC, OBC and Others category was in Chhattisgarh, Assam, Assam and Jharkhand respectively.

In 2011-12, among 2nd category states Haryana had highest wage inequality and Kerala had lowest wage inequality among all workers. Though the wage inequality among SC workers was similar across the states with a small variation in Gini (between 0.32 to 0.35) except Himachal Pradesh (table 5.11). The wage inequality among SC workers in Himachal Pradesh was 0.44 point. OBC workers form Haryana, Uttar Pradesh and Tamil Nadu had similar wage inequality (0.41 point) and which was also highest among 2nd category states. In case of Others category workers, the wage inequality was highest in Uttar Pradesh (0.54 point) and lowest in Jammu & Kashmir (0.42 point) (table 5.11).

5.4 Conclusions

Above analysis shows the disparity across Indian states on the basis of work force participation, wage, growth rate and wage inequality. And it is clear from this analysis that Indian states have different structure for every labour market indicator. Work force participation, wage determination varies across sates and it shows there is not great influence of any state on another states.

The work force participation has declined for every state except Tripura and Punjab. Percentage of self-employed workers varied from state to state and this variation was between 67.41 to 29.97 per cent. It means there was very high difference between self-employed workers of two different states. Self- employment has declined from 2004-05 to 2011-12 in most of the states but in some states is has increased at a very slow.

Proportion of regularly employed workers has increased in all states except Tripura. On the other hand, Proportion of casually employed workers have high variations, between 17.82 per cent to

46.36 per cent across states. Similar to self-employment, there was no pattern of changes in casual employment of workers as in some states it increased while in others it had a decline.

In 2011-12, the average daily wage was lowest in Chhattisgarh and Bihar. Despite the lowest wages, Chhattisgarh also had a negative annual growth rate for wages from 2004-05 to 2011-12. Along with Chhattisgarh, Jharkhand and Punjab also had negative annual growth rates of wages. Usami (2011) in his study on wages pointed out that for the period from 1998-99 to 2008-09 the wage gap at regional levels has narrowed. Still, the wage inequality among all states is very high. It varies between 0.40 to 0.50 point among all states except Tripura and Kerala. In Tripura and Kerala, the wage inequality was around 0.35 point, which was the lowest among the states.

Chapter 6

Role of Education in determination of wages

6.1 Introduction

Some basic indicators of labour market have been discussed in the earlier chapters along with regional disparity in work force participation, wages and wage inequality. The main objective of this chapter is to analyse the role of education in wage determination. For this purpose, the India Human Development Survey (IHDS) data is used and this data provided publicly by the Interuniversity Consortium for Political and Social Research (ICPSR). This IHDS data gives information on both household and individual's levels. For this purpose of study individual level information is used.

In the first section of this chapter, is a short note on comparison of NSSO and IHDS data sources and in second sections role of education on wage determination is analysed with the help of some econometrics tools.

6.2 A Comparison of NSSO and IHDS:

NSSO as part of its survey both thin and thick rounds, covers all states and union territories and IHDS also covers all states and territories except Andaman & Nicobar and Lakshadweep islands. Both database gives a wide range of information about labour market indicators like employment status, occupation status, industry information, wages, work days etc. Both database have information on household characteristics such as household size, social group, religion, area, household type etc., along with information on individual characteristics such as age, sex, marital status, education level etc.

NSSO collects information on both usual principal and subsidiary statuses (UPSS) of employment but IHDS collect information on usual principal status according to type of work done in the whole year before the date of survey, for maximum time. Wages and work days are collected on weekly basis in NSSO but IHDS collects annual total wages and total working days in a year for individual. NSSO collects information on regular and casual wages only but IHDS collects

information on wages and other earning such as earning from business etc also including bonus, remittances, pension etc.

NSSO includes a person in workforce on the basis of time spent in any kind of economic activity compare to other work statuses (if a person spent his maximum days of a year as employed than he will be part of work force). And IHDS includes a person in work force if he was employed for more than or equal to 240 hours in any occupation in last year.

Since, both the datasets include the worker in work force if he or she is working in an economic activity in the most part of the year, therefore the work force participation rate for the age group of 15-59 years in India, is similar in both datasets. Tables 6.1 and 6.2, show the work force participation in rural and urban areas for both male and female among different social group. There is only a difference of 1.93 per cent work force participation in 2011-12 in both datasets.. Though the proportion of work force participation was higher in NSSO data (57 per cent) as compared to IHDS data (55.07 percent).

Table 6.1 *Work force participation ratio in rural and urban areas, by social group and sex, IHDS 2011-12, in per cent*

Social group	Sex	Rural	Urban	India
ST	Male	81.66	71.36	80.41
	Female	56.51	31.16	53.31
	All	68.93	50.59	66.66
SC	Male	80.55	75.04	78.89
	Female	47.72	24.16	40.98
	All	63.64	49.70	59.55
OBC	Male	75.66	74.09	75.10
	Female	42.96	21.29	35.67
	All	58.61	47.70	54.83
Others	Male	74.37	71.67	73.19
	Female	30.83	16.78	24.88
	All	52.03	44.20	48.67
All	Male	77.14	73.33	75.81
	Female	42.55	20.52	35.22
	All	59.28	46.91	55.07

Source: IHDS data, 2011-12.

Table 6.2 *Work force participation ratio in rural and urban areas, by social group and sex, NSSO 2011-12, in per cent*

Social group	Sex	Rural	Urban	India
ST	Male	86.02	75.89	84.71
	Female	54.96	27.85	51.83
	All	70.51	53.43	68.42
SC	Male	82.72	78.99	81.82
	Female	39.87	24.84	36.36
	All	61.53	52.81	59.46
OBC	Male	81.55	79.48	80.94
	Female	36.00	21.62	31.91
	All	58.96	51.49	56.80
Others	Male	80.41	77.44	79.11
	Female	28.99	18.45	24.52
	All	54.97	49.09	52.44
All	Male	81.99	78.44	80.88
	Female	37.15	20.98	32.28
	All	59.76	50.75	57.00

Source: Employment and unemployment survey, NSSO, 2011-12.

Pattern of work force participation for rural and urban areas, male and female population across social groups is similar in both database. Both datasets show that there is higher work force participation in rural areas than urban areas, and male have higher work force participation than their female counterparts (tables 6.1 and 6.2). Across different social groups similar pattern of work force participation are there in both datasets, with the highest work force participation among Schedule tribe population followed by Schedule castes, Other Backward Classes and then Others category population.

Though the wage rate have some difference at all India level in both IHDS and NSSO data set. For 2011-12, IHDS data shows that average daily wage of a worker in India was around Rs.239 in India and on the other hand, NSSO data shows that average daily wage of a worker in India was Rs.253 (table 6.3 and 6.4). However, the average wage in rural areas was similar in both dataset, but in urban areas, average daily wage had a difference of Rs.59.35 in 2011-12 (tables 6.3 and 6.4). NSSO dataset showed higher average wage rate for urban area than IHDS dataset.

Though, in case of social groups, the average wage did not have much difference for Schedule tribes, dalits and Other Backward Class category worker but for Others category there was very large difference in both dataset.

Table 6.3 *Average daily wage in rural and urban areas, by social group and sex, IHDS 2011-12, in Rupees*

Social group	Sex	Rural	Urban	India
ST	Male	175.83	374.48	207.26
	Female	106.78	339.63	144.20
	All	155.95	364.32	189.07
SC	Male	181.30	309.24	226.57
	Female	104.23	185.28	127.22
	All	159.43	281.63	200.41
OBC	Male	194.53	324.71	253.86
	Female	105.27	202.30	139.74
	All	170.42	300.74	226.70
Others	Male	248.54	414.59	340.35
	Female	149.10	313.37	234.67
	All	228.03	395.76	319.72
All	Male	199.51	353.65	265.74
	Female	111.75	239.42	156.00
	All	176.32	330.59	239.55

Source: IHDS, 2011-12.

The difference in average wages for Other Backward Class, Schedule caste and Schedule tribe workers was around Rs.3, Rs.12 and Rs.13 respectively in both datasets, but the difference for Others category workers was very high (Rs.68) specifically in the wages of workers from urban areas wages only as rural area wages did not have much difference (tables 6.3 and 6.4).

This large difference can be explained as both dataset have applied different methods to collect wages of individuals. NSSO collects wage (cash and kind) for only regular and casual workers, on the other side IHDS collects information on cash wages, kind wages, bonus, extra work wages, allowances and other earnings (business etc.) for every individual.

Table 6.4 *Average daily wage in rural and urban areas, by social group and sex, NSSO 2011-12, in Rupees*

Social group	Sex	Rural	Urban	India
ST	Male	154.54	366.15	195.17
	Female	109.65	248.31	126.64
	Person	141.03	342.38	175.73
SC	Male	170.00	300.10	204.41
	Female	111.77	201.78	133.92
	Person	156.32	278.68	188.16
OBC	Male	189.79	332.08	241.32
	Female	124.07	242.02	158.18
	Person	174.53	316.04	223.57
Others	Male	247.28	531.66	401.06
	Female	159.98	462.82	327.76
	Person	231.86	518.96	387.80
All	Male	191.86	406.54	271.94
	Female	123.41	318.56	185.01
	Person	176.07	389.94	253.19

Source: Employment and unemployment survey, NSSO, 2011-12.

Above discussion shows that there is not much difference in the estimations of any indicators using any dataset among NSSO and IHDS. The next section discusses the role of education in the determination of wages or earning.

6.3 *Education as a Determinant Factor of Wages*

Wages of a person changes with the change in the level of education. But still there is difference between the wage of a female worker and a male worker at every level of education. On the one hand wages increase with the increase in the level of education for both male and female but on the other hand the difference between male and female wages also increase with the increase in the educational level, across all social groups (table 6.5).

The difference between the wages of Others category workers was highest among the all social groups at most educational level. In case of ST, SC and OBC workers, there was also increase in the wages with the increase in the education level but the increase was comparatively lower than the Others category workers (table 6.5).

Table 6.5 Average wage of a worker according to education level, by social group and sex in all India, in 2011-12, in Rupees

Social group	Sex	Education level							All
		Not literate	Below primary	Primary	Elementary	Secondary	Higher secondary	Graduation and above	
ST	Male	134.23	149.85	170.70	173.74	283.03	349.89	590.56	207.27
	Female	88.91	86.42	123.58	116.74	252.16	303.76	693.06	144.20
	All	113.96	131.49	162.88	166.03	278.28	339.36	617.40	189.08
SC	Male	166.74	178.05	193.71	215.00	276.35	290.82	458.78	226.52
	Female	106.41	98.22	118.06	105.92	142.72	231.01	377.13	127.22
	All	139.31	159.01	179.06	200.60	258.76	279.95	443.61	200.35
OBC	Male	168.75	179.83	204.66	217.07	277.97	318.52	503.12	253.90
	Female	97.03	103.08	104.94	131.64	155.25	228.96	400.87	139.75
	All	137.13	159.84	183.69	206.58	262.41	303.14	483.58	226.70
Others	Male	167.17	175.24	203.12	228.76	333.84	382.54	605.79	340.41
	Female	88.72	85.31	96.64	155.38	221.93	302.97	459.23	234.86
	All	140.42	151.86	184.05	220.75	322.56	369.06	572.30	319.81
All	Male	163.16	175.38	197.84	215.82	294.18	338.36	549.54	265.77
	Female	98.45	95.96	108.72	127.57	175.07	261.31	444.37	156.03
	All	135.13	155.01	180.44	204.95	279.63	324.76	527.27	239.56

Source: IHDS, 2011-12.

Also, the difference in increase of wage rate also increases the difference between the average wages of among ST, SC, OBC with Others category workers. Though education improve the average daily wage of an individual but it is not sufficient factor to reduce the wage difference between male and female and also between social groups.

The wage pattern in 2011-12 for rural India were similar to the all India patterns. In case of workers from rural India the wage are increased with the increase in the education level for both male and female workers of all social group. But increase in the educational level is also increasing the difference between the wages of deprived section worker and the privileged section worker (table 6.6). This was true for the deprivation in gender and social group based. At elementary or secondary level of education both gender based wage difference and social group base wage difference, was lower but form very next level it started increasing at higher rate.

Table 6.6 Average wage of a workers according to educational level, by social groups and sex, in rural India, in 2011-12, in rupees

Social group	Sex	Educational level							All
		Not literate	Below primary	Primary	Elementary	Secondary	Higher secondary	Graduation and above	
ST	Male	128.68	146.65	156.58	153.84	251.57	294.92	493.26	175.83
	Female	86.55	84.41	108.09	94.59	232.88	248.32	417.60	106.78
	All	110.09	128.45	149.07	146.13	248.62	284.59	482.21	155.95
SC	Male	155.23	148.91	165.48	179.57	221.50	244.88	329.76	181.25
	Female	98.24	92.57	103.28	91.46	112.33	158.71	271.39	104.23
	All	129.50	136.30	153.00	166.80	204.66	231.85	319.76	159.37
OBC	Male	154.91	154.03	177.45	185.39	217.24	222.64	376.97	194.52
	Female	95.18	96.22	88.32	103.68	130.78	202.16	215.92	105.27
	All	127.97	138.30	156.38	174.35	205.14	218.49	358.48	170.40
Others	Male	159.13	163.20	189.26	208.02	294.20	285.23	481.82	248.59
	Female	78.39	64.83	88.47	129.97	147.77	249.78	379.20	149.32
	All	132.82	137.36	170.65	198.94	279.46	278.48	458.77	228.13
All	Male	151.41	153.13	173.09	184.85	239.23	253.78	416.52	199.51
	Female	93.37	87.15	94.60	103.55	139.08	214.12	324.61	111.77
	All	126.20	136.14	156.89	174.00	225.52	246.29	400.72	176.31

Source: IHDS, 2011-12.

So, it is clear that the increase in the wages with increase in the educational level is not sufficient to make deprived sections in the better situation with the comparison of privileged sections. Improvement in the level of education make them in the better situation within the deprived sections itself.

The pattern of wage had small difference in urban areas as comparison to the rural India. Female belonging to Schedule tribe category had better situation in terms of wage earning, as they did not have much difference in the wage payments than their male counterparts. The wage difference between ST male and female workers are decrease with the increase in level of education, so for ST female, education is a medium to come forward and to reduce the discrimination against them. But for SC, OBC and Others category female workers, the pattern is similar to rural India. At some educational levels the wage difference is declining but on the next level it start increasing again.

Table 6.7 Average wage of a workers according to educational level, by social group and sex, in urban India, 2011-12, in rupees

Social group	Sex	Educational level							All
		Not literate	Below primary	Primary	Elementary	Secondary	Higher secondary	Graduation and above	
ST	Male	212.69	181.30	258.72	276.41	379.36	455.44	728.47	374.48
	Female	113.16	109.87	183.31	205.41	319.50	399.15	801.62	339.63
	All	160.80	162.89	241.48	264.94	370.91	441.86	756.33	364.32
SC	Male	215.44	252.55	246.64	269.77	341.33	340.30	547.70	309.16
	Female	138.84	109.27	149.71	136.10	199.76	282.46	439.11	185.28
	All	179.64	213.33	229.18	254.88	326.72	328.02	526.47	281.56
OBC	Male	206.65	222.42	242.13	255.34	329.44	384.83	574.25	324.85
	Female	102.98	116.44	139.25	175.50	181.12	255.87	446.53	202.30
	All	164.00	196.92	224.52	246.77	312.32	365.62	545.06	300.82
Others	Male	188.72	195.38	220.78	250.61	357.10	436.49	648.99	414.66
	Female	110.77	120.98	108.01	186.52	265.31	340.15	486.31	313.37
	All	159.25	176.40	201.41	244.10	347.83	421.34	611.61	395.81
All	Male	206.01	223.04	239.00	258.42	342.67	401.18	614.30	353.74
	Female	117.43	115.16	137.34	169.33	216.31	302.04	484.95	239.42
	All	168.02	195.61	221.11	248.74	328.92	384.62	584.58	330.64

Source: IHDS, 2011-12.

However, the female workers with higher educational levels are better-off as compared to the other female worker with lower level education levels but it is not improving their situation in the labour market in terms of wage differences with their male counterparts.

6.3.1 Econometric Model:

According to literature review of studies related to education as a factor of wage determination, most used econometric model is Mincerian earning function. This function is based on human capital approach. According to Mincerian earning function, time spent in schooling is a key determinant of any individual's wage or earnings. The basic Mincerian earning function is

$$\ln W_i = \beta_0 + \beta_1 S_i + \beta_2 \exp_i + \beta_3 \exp_i^2 + \epsilon_i$$

In this equation $\ln W_i$ is natural logarithm of i individual's earning, S_i is years of schooling, β_0 is rate of return of years of schooling, and \exp_i is experience in years, \exp_i^2 is square of experience and ϵ_i is an error term. This equation explains that earning of any individual is a linear function

of years of schooling and it is both linear and quadratic function of experience. The given model is estimated by use of OLS technique for estimations in this study.

6.3.2 Variables

This Mincerian function explain the role of education and experience in the determination of wage, but given analysis of data explains that wages vary across gender, social groups, regions, and sectors. So with basic variables of Mincerian approach, some other wage related variables were also introduced in the model.

For more accurate and unbiased estimation of coefficients this model is applied on the population which is in work force and according to IHDS individual who worked for more than 240 hours in an economic activity in last year, is considered in the work force. Regression analysis is done for the age group of 15-59 years. Dependent variable of this model is natural logarithm of wage or earning. For this individual's per day earning has been taken as indicator of his/her wage and natural logarithm of per day earning is used as a dependent variable in the model.

Independent variables from individual characteristics are time spent in education (in years) and experience (in years) are continuous variable. Data does not collect information on any direct indicator of experience so potential experience is used as a proxy of experience. Potential experience is age minus years of education minus 5 five years (Agarwal, 2013). It is assumed that individual start schooling at age of 5 year and got job after just completion of education (Agarwal, 2012 and Duraisamy, 2002). If the experience and experience square will be highly correlated so there can be problem of multicollinearity in the model. If this problem exists in the model then the estimators will be not BLUE (Best Linear Unbiased Estimator). To avoid this problem and for the best estimators, square of experience is calculated from centring experience variable. To understand the gender discrimination sex is also used as independent variable and dummy variable is created for this where males are taken as reference gender category.

Household characteristics are also used as independent variables and these are social group, region and sector. There are four social groups and three dummy variables are created for this. Among social groups, Others category is taken as reference social group. Sector is also taken as

dummy variable and one dummy variable is created considering urban sector as reference category sector. To capture the effects the region on wages, 6 categories (table 6.8) have been formed on the basis of geographical location of the states from the all surveyed states and UTs (IHDS did not conducted survey in Andaman & Nicobar island and Lakshadweep island) (Sharma and Singh, 2010). For these six region, fives dummy have been used and North Western region is taken as reference region.

Table 6.8 *Regional classification of states*

Region	States & UTs
North Western	Jammu and Kashmir, Himachal Pradesh, Punjab, Uttarakhand, Haryana, Uttar Pradesh
Eastern	Assam, Bihar, West Bengal, Jharkhand, Odisha
Central	Rajasthan, Chhattisgarh, Madhya Pradesh, Gujarat, Maharashtra
Southern	Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Goa
North Eastern	Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura
UTs	Chandigarh, Dadra and Nagar Haveli, Daman and Diu, Delhi, Pondicherry

The analysis is done for only employed population of the age group 15-59 years. To analysis the effect of these all independent variable on wage ordinary least square method is used for estimations. One regression is done for all India. Two separate regressions are done for rural and urban areas to analysis the effect of rest independent variable in these areas separately. Along with this four regressions are also done to analysis the other independent variables's effect on earning for different social groups separately. All regressions are done at cross section data of IHDS data set 2011-12. So there were total seven regressions estimated which are given in the appendix (A6.1 to A6.6).

6.3.3 *Regression equation and Results*

The basic regression equation for India is

In (Dailyearnings)

$$\begin{aligned}
 &= \beta_0 + \beta_1 \text{Yearsofeducation} + \beta_2 \text{Experiance} + \beta_3 \text{experiance}^2 \\
 &+ \beta_4 \text{ruralarea} + \beta_5 \text{Femaleworker} + \beta_6 \text{Scheduletribeworker} \\
 &+ \beta_7 \text{Schedulecasteworker} + \beta_8 \text{Otherbackwardclassworker} \\
 &+ \beta_9 \text{Easternregion} + \beta_{10} \text{centralregion} + \beta_{11} \text{Southernregion} \\
 &+ \beta_{12} \text{NorthEasternregion} + \beta_{13} \text{UTs} + \epsilon_i
 \end{aligned}$$

In this equation ϵ_i is error term. The Mincerian is based on an assumption of identical individual which is not possible and in that case this error term measures about unexplained independent variables like ability, intelligence etc.

Table 6.9 Values of β coefficients, estimated for natural logarithm of daily earnings in all India

Variable	Coefficient value	Standard error	P value
Dependent variable			
In daily earning			
Independent variable			
Human capital variables			
Education	0.058***	0.000	0.000
Experience	0.019***	0.000	0.000
Experience square	-0.0003***	0.000	0.000
Other variable			
Rural (Reference: Urban)	-0.237***	0.006	0.000
Female (Reference: Male)	-0.438***	0.006	0.000
Schedule tribe (Reference Others)	-0.134***	0.010	0.000
Schedule caste (Reference: Others)	-0.053***	0.080	0.000
Other backward class (Reference: Others)	-0.126***	0.007	0.000
Eastern Region (Reference: North Western)	-0.128***	0.009	0.000
Central region (Reference: North Western)	-0.128***	0.008	0.000
Southern region (Reference: North Western)	0.109***	0.008	0.000
North Eastern (Reference: North Western)	0.380***	0.025	0.000
UTs (Reference: North western)	0.310***	0.020	0.000
Constant	4.667***	0.015	0.000
No. of observations	52003		
R square	0.3579		

Note: *** significance at 1% level of significance.

Source: IHDS, 2011-12.

The estimated values of coefficients of all regressions is given in the Appendix tables . It is clear from the table that all independent variable have significant role in the determination of the earning. All coefficient are significant at 5% level of significance for all India and all social group regression. Among human capital variables, years of education has an important role in the determination of individual's earning. One additional year in education increases the earning by 5 per cent in all India. Education has a more important role in the urban areas rather than in the rural areas. As regression coefficient results show that in urban areas one additional year in educational level improves the wages by 9 per cent and for rural areas change is of 3.5 per cent. Among all social groups education is most determinant factor in the Others than for OBC, ST and SC.

Positive sign of experience coefficient explains that higher experience improves the earning of individuals. As it is clear that one addition year of experience improve the earning of individual by 1.9 per cent in all India, by 1.2 per cent in rural areas and by 2.7 per cent in urban areas. Among all social groups experience is more determinant for Others category wages after than for OBC, SC and ST. This is also clear that experience is also more determent in urban areas than rural areas like years of education. Negative sign of coefficient of square of experience shows that marginal return from experience will be negative with time (or with increase in experience). This negative sign also explains that curve of logarithm of earning and experience will be concave and in parabolus shape. All results for human capital variables are significant at 5% level of significance in all regressions.

First household characteristics based variable was sector, which was analysed in the regression. The coefficient of rural area dummy is explaining that if a person moves from urban area to rural area his earning will decline by 23.7 per cent since there is high difference in the earning of the rural areas and urban areas.

The regression results also show the gender and social group discrimination in wages in the labour market. These both type of discrimination exists in the both rural and urban areas but

these are social group discrimination is more effective in the rural area and gender base discrimination is more effective in urban area. In all India a female earns 43.8 per cent less than male. This difference is 44.4 per cent in the rural area and 49.663.3 per cent in the urban area. It shows that gender discrimination is higher in the urban areas than urban areas. these result are significant at 5% level of significance.

Regression results explains that Schedule tribes worker have 13.4 per cent less daily earning as compare to earning of a worker belonging to Others category. Worker from Other backward class and Schedule castes also have 12.6 per cent and 5.3 per cent lower earning respectively than Other category worker. This difference between earning is more highlighted in the rural areas as rural area ST, SC and OBC are getting lower wages as compared to Others in rural area than urban area. All results for social groups are significant except schedule castes and schedule tribes in urban area at 5% level of significance. Schedule tribes coefficient is significant at 5% level of significance and schedule caste result is insignificant. So, there is more discrimination in the rural areas than urban areas.

There is difference between the earning of different regions. For worker belonging to Central region and eastern region, the earning was lower than worker from North Western region. Workers from all other regions had higher earnings than worker from North Western region. In rural areas and urban areas also worker from Central region and eastern region had lower earning than the worker from North Western region and workers from all other regions were getting higher earnings. Among all social group gender discrimination is highest in Others as gender is playing important role in determination of wages and rural and urban differences are highly effected factor in Schedule tribes as sector is an important factor of determination of their wages. All results are significant at 5% level of significance except Eastern region coefficient for ST and North Eastern coefficient for SC.

It is clear from the regression analysis that human capital related characteristics have definitely important role in the determination of the wages but with these, other factors like gender, social groups, sector and region also play an important role in the determination of wages.

6.4 Conclusions

Though NSSO and IHDS dataset give the same picture of the labour market and both dataset show that work force participation and wages varies from rural to urban area, males to females and among social groups also.

Male worker had more workforce participation ratio than female and it was the case for all social group in both rural and urban areas. Also male workers had higher average daily wages than female workers across social groups in both rural and urban area. Overall work force participation was lower in the rural areas than urban areas for both male and female of all social groups and wages in rural areas was lower than in urban areas for both male and females across social groups. Among different social groups Schedule tribes had highest work force participation followed by Dalits, Other backward classes and Others. And for average wages the Schedule tribe workers were getting lowest among all social group followed by Schedule caste, Other backward class and Others.

On one hand wages in the rural areas were lower so the work force participation was higher there and deprived social groups had lower wages so their work force participation was also high but on the other hand female had lower wages but their work force participation was also low. So it is clear here that there are two different type of discrimination, one is against female population and other is against social groups and area based discrimination.

In case of social groups and area based discrimination, the deprived social group worker doesn't get same wage for the same work as compare to privileged social group and similar is the scenario in area based discrimination, where worker in rural and urban areas are not paid similar wages for the same work performed. This same type of discrimination explain the difference between male and female wage but difference in the work force cannot be explained by this. As, that is the case of exclusion not discrimination. Female population is facing an exclusion from the labour market on the basis of their gender.

Above given analysis points out that educational level also has an important role in the determination of wages but it is not much effective to reduce the effect of discrimination or exclusion.

Along with these all factors (gender, social group, sector, education level) of any individual's experience and region from which he or she belongs, also have a role in the wage determination. It is clear from the regression analysis that education certainly improves the earning of any individual and wage difference can be explained in the form of difference in the educational level with one condition that comparing individual have identical characteristics.

All wage determinant factor (education, experience, gender, social group, region) have different impact in the rural and urban labour markets. In rural areas caste based discrimination and exclusion are more effective than in urban areas and on the other hand, gender based human capital related factor like education and experience are more effective in urban areas than rural areas. Other category wages are more dependent on education level and experience followed by other backward class, schedule tribes and schedule castes.

Chapter 7

Conclusions

The research study on "Labour Market: A Regional Analysis for Different Social Groups " examines the labour market determinant, work force participation and wage rate in particular along with the role of education in the labour market. NSSO data of employment and unemployment surveys of 2004-05 (61st round) and 2011-12 (68th round), and IHDS data (2011-12) have been utilised for the research study. With regard to the analysis of work force participation and wage rate, the working age group population from 15-59 years is taken into consideration for both urban and rural India. To examine the work force participation, workers who are either self-employed or employed on casual or regular basis are reviewed using data of both NSSO rounds. But for analysing wages data for casual and regular workers, the NSSO does not collect information on the earnings of self-employed population. However, the datasets used in this study of both NSSO and IHDS, give a similar picture of labour market and indicate that work force participation and wage rate not only varies across social groups but also varies from rural to urban area and from male to female as well.

The discussion on NSSO dataset employment and unemployment rounds shows that both work force participation and labour force participation has declined from 2004-05 to 2011-12. And this decline was larger in the case of female workers than male workers, i.e, there was a higher degree of gender biasness against female workers in the labour market. Nevertheless, work force participation rate among men is higher than women among all social groups in both rural and urban areas. Similar was the scenario for wage rates, where average daily wages of male workers were higher than the female workers in rural and urban areas both. The important factors responsible for women to lag behind in comparison to male workers are: a) agrarian distress in the country, b) rate of migration for employment is lower among women than men, c) low educational levels (see Rawal and Saha 2015). Apart from this, the NSSO does not include the women in work force who are involved in domestic activities, this is also seen as one of the main reasons for their lower share in the work force.

The distribution of population in work force participation is lower in the rural areas as compared to urban areas for both male and female across the social groups. Also, average wages in the rural areas are lower than the urban areas for both male and female across the social groups. The study points out that across social groups, population from Schedule Tribes category in particular have had higher population participation in the work force, followed by dalits, other backward classes and Others category workers. On the other hand, the average daily wage was lowest for ST category workers as compared to workers from all other social groups.

Workers from SC and ST social groups, which generally belong to lower income groups as well, have higher participation in labour force and work force as compared to OBC and Others category workers. The important reason for their exclusion from the work force without the completion of their education is to meet their minimum requirement of livelihood (Abraham 2009). On the other hand, OBC and Other categories have higher proportion of population as students in comparison to SC and ST category population, because generally they belong to higher income groups and their minimum level of livelihood is fulfilled.

On the other hand there are large differences in the wages of workers belonging to different social groups, sectors, sex. The analysis of NSSO data points out that there is not only difference in the wage payment of regular and casual workers but also within the regular paid workers, as there is high inequalities in the payments across social group, and gender.

Although, there is an increase in wages across social group from 2004-05 to 2011-12 but this increase was particularly in higher for social groups (SCs and STs) which have had comparatively lower wages in previous years (2004-05), i.e., the annual rate of growth in wages of schedule tribe and schedule caste workers was higher than for OBCs and Others. Similar was the scenario for casual wages and wages of female workers during 2004-05 to 2011-12.

The intra social group inequalities in wages are higher among regular employed workers than casually employed workers. And over the year from 2004-05 to 2011-12, there has not been any change in these intra social inequalities. Inter social group inequalities in wages are also higher in the case of regular employment. However, the wage difference has been persistent over the years in different social groups, particularly in the form of discrimination and exclusion, and has deteriorated by the increase in the intra social and intra employment group inequalities.

The wages have increased with an annual growth rate of 5.15 per cent but this increase in wages has not been able to reduce the inequalities (table 4.7). On the other hand, the data points out that from 2004-05 and 2011-12, neither there was any decrease in the wage inequalities nor there was any increase in wage inequality across social groups and employment type.

Furthermore, the study points out that although the wages in the rural areas are lower than urban areas yet there exists the higher rate of work force participation particularly among ST and SC category workers. However, on the other hand, woman workers who also have lower wages, possess a lower rate of work force participation. Therefore, it is clear from the discussion, that there are two different types of discriminations; one is based on gender (female population) and the other is based on social group and area based discrimination.

The social groups and area based discrimination are similar to the deprived social group workers who do not get the same wage for the same work as compared to privileged social groups and workers in the rural area who are also in similar conditions and circumstances. Similarly, there exists the discrimination between male and female wage but difference in the work force cannot be explained by this same type of inequity. Nevertheless, this is a case of exclusion not discrimination. Female population thus are facing an exclusion from the labour market on the basis of their gender.

The regional analysis shows the disparity across Indian states on the basis of work force participation, wage, and growth rate and wage inequality. And it is clear from the analysis that Indian states have different structure for every labour market indicator. Work force participation, wage determination varies across states and it shows there is not great influence of any state on another state.

The work force participation has declined for every state except Tripura and Punjab. Percentage of self employed workers varied from state to state and this variation was from 67.41 to 29.97 per cent (refer Table 5.3). It states that there was very high difference between self employed

workers of two different states. Self-employment has declined from 2004-05 to 2011-12 in most of the states but in some states it has increased at a very slow.

Proportion of regularly employed workers has increased in all states except Tripura. On the other hand, proportion of casually employed workers have high variations, from 17.82 per cent to 46.36 per cent across states. As for self-employment, there was no pattern of changes in casual employment of workers as in some states it increased while in others it had a decline (table 5.7).

In 2011-12, the average daily wage was lowest in Chhattisgarh and Bihar. Despite the lowest wages, Chhattisgarh also had negative annual growth rate for wages from 2004-05 to 2011-12. Along with Chhattisgarh, Jharkhand and Punjab also had negative annual growth rate in terms of wages. Nonetheless, wage inequality among all states is very high. It varies between 0.40 to 0.50 point among all states except Tripura and Kerala (refer Table 5.11). In Tripura and Kerala, the wage inequality was around 0.35 point which was lowest among the states.

The findings of the study identifies that education is an important factor in determining the type of employment, particularly in regular employment. However, despite the level of education an individual has attained, there is always scope for competition. Furthermore, rise in educational level provides prospects of getting regular employment but, there is an imbalance in opportunity between two or more individuals with equal qualification due to variations across social groups, gender, environment and exposure. In urban areas at higher level of education, there are more chances of getting regular employment as compared to rural areas. Education affects female work force participation more than male work force participation. Additionally, women are more self-employed in rural areas and regular employed in urban areas.

Apart from employment, education too has a positive effect on wages as wages increase with higher level of education for every social group for both casual and regular employment. There is wage difference among casual and regular employed but intra occupation inequality is higher compared to inter occupation. Though educational levels have positive impact on wage rates, the inequality in wages however is boosted after secondary or higher secondary level for both regular and casual workers. Therefore, the wage inequality for same educational level is

persistent not only for inter-social groups but also for inter-employment. Conversely, the wage inequality for same educational level is an issue of concern because education is a source for economic and social upliftment for the schedule tribes and scheduled castes.

Based on the above arguments, one can conclude from the regression analysis that education has a preeminent role in the determination of wages but to large extent fails to reduce the effect of discrimination or exclusion.

Taking into consideration all the factors (gender, social group, sector, education level) of any individual's experience and region from which he or she belongs— these determinants have a role in the wage determination. It is very much clear from the regression analysis that education certainly improves the earning of any individual and wage difference can be explained in the form of difference in the education level with one condition i.e., by comparing two or more individuals having identical characteristics.

All wage determinant factors (education, experience, gender, social group, and region) have different role in the rural and urban labour markets. In the case of rural areas, discrimination and exclusion are more effective than in urban areas. As for human capital related factor like education and experience, it is more effective in urban areas than rural areas.

Appendix Tables

A3.1 Distribution of population belonging to age group 15-59 years, by usual principal and subsidiary status, for social groups and sex, in urban India, 2004-05, in per cent

Social group	Sex	Usual principal and subsidiary status					
		Work force participation	Unemployed	Students	Domestic worker	Others	Labour force participation (1+2)
ST	Male	89.10	1.23	7.94	0.41	1.44	90.33
	Female	69.12	0.64	5.32	23.90	1.22	69.76
	All	79.16	0.97	6.64	12.10	1.33	80.13
SC	Male	86.38	2.59	8.87	0.34	2.11	88.97
	Female	49.40	1.91	5.51	42.52	1.61	51.30
	All	68.36	2.35	7.23	20.90	1.87	70.71
OBC	Male	85.84	2.00	10.12	0.33	1.96	87.84
	Female	46.20	2.77	6.22	44.66	1.60	48.97
	All	66.22	2.27	8.19	22.27	1.78	68.49
Others	Male	82.51	2.79	12.60	0.34	2.17	85.30
	Female	31.85	4.54	9.54	55.58	1.51	36.39
	All	57.77	3.27	11.11	27.32	1.85	61.04
All	Male	85.14	2.30	10.50	0.34	2.02	87.44
	Female	44.17	2.73	7.06	45.98	1.54	46.90
	All	65.00	2.44	8.81	22.78	1.78	67.44

Source: Employment and unemployment survey, NSSO, 2004-05.

A3.2 Distribution of occupation according by education levels and social groups, all India 2004-05, in per cent

Social group	Occupation	Education level							All
		Not literate	Below primary	Primary	Elementary	Secondary/ Higher secondary	Diploma/ Graduation	Post graduation or above	
ST	Self employed	50.79	51.15	57.30	58.09	56.26	34.61	24.12	52.33
	Regular	2.85	5.32	6.73	10.84	29.15	59.28	75.34	7.17
	Casual	46.37	43.53	35.97	31.07	14.59	6.11	0.54	40.50
SC	Self employed	38.66	36.32	38.22	38.90	41.18	35.10	24.95	38.43
	Regular	5.37	10.77	15.04	18.16	30.88	55.68	70.01	13.02
	Casual	55.97	52.91	46.74	42.94	27.93	9.22	5.04	48.55
OBC	Self employed	61.17	57.35	60.59	62.47	63.13	44.24	37.43	60.11
	Regular	4.02	8.20	10.83	14.77	25.32	51.69	62.14	12.82
	Casual	34.81	34.45	28.58	22.76	11.54	4.07	0.43	27.07
Others	Self employed	61.83	63.02	66.00	67.29	65.07	43.64	32.93	60.99
	Regular	6.10	11.38	14.33	18.08	29.82	55.24	66.80	22.93
	Casual	32.07	25.60	19.67	14.63	5.11	1.12	0.27	16.08
All	Self employed	53.89	53.53	57.34	59.46	60.85	42.83	33.47	55.20
	Regular	4.53	9.20	12.31	16.16	28.19	54.28	65.90	15.16
	Casual	41.58	37.26	30.35	24.38	10.96	2.89	0.63	29.64

Source: Employment and unemployment survey, NSSO, 2004-05.

A4.1 Average real daily wage in rural and urban India, by social group and sex, in 2004-05, in rupees

Social group	Gender	Rural	Urban	India
ST	Male	106.93	289.73	130.80
	Female	68.22	153.76	76.20
	Person	93.50	253.43	112.36
SC	Male	120.00	215.16	143.44
	Female	69.51	134.46	82.55
	Person	105.75	196.42	126.96
OBC	Male	141.83	244.20	176.35
	Female	76.46	155.73	94.44
	Person	123.44	227.91	155.77
Others	Male	196.42	377.28	293.88
	Female	110.26	319.30	213.68
	Person	178.49	366.74	278.34
All	Male	142.99	300.84	199.28
	Female	77.99	218.53	114.49
	Person	125.06	284.87	178.19

Source: Employment and unemployment survey, NSSO, 2004-05.

A4.2 Average real daily wage of regular employee in rural and urban India, by social group and sex, in 2004-05, in rupees

Social group	Gender	Rural	Urban	India
ST	Male	230.61	360.48	281.15
	Female	140.75	216.72	168.56
	Person	209.02	328.44	254.85
SC	Male	220.94	257.47	240.87
	Female	106.72	159.49	138.22
	Person	198.21	234.49	218.42
OBC	Male	230.67	284.51	260.41
	Female	140.75	191.49	167.67
	Person	213.69	268.16	243.57
Others	Male	321.67	415.56	387.41
	Female	204.77	347.08	308.67
	Person	302.51	402.89	373.33
All	Male	259.15	348.38	313.44
	Female	151.87	261.17	219.12
	Person	239.13	331.72	295.58

Source: Employment and unemployment survey, NSSO, 2004-05.

A4.3 Average real daily of casual workers wage in rural and urban India, by social group and sex, in 2004-05, in rupees

Social group	Gender	Rural	Urban	India
ST	Male	82.91	132.27	85.51
	Female	60.45	78.83	61.36
	Person	74.72	113.62	76.73
SC	Male	97.65	130.61	101.52
	Female	64.71	82.52	66.21
	Person	87.81	119.66	91.24
OBC	Male	104.31	140.30	110.36
	Female	62.67	79.61	64.40
	Person	91.22	127.84	96.66
Others	Male	102.65	150.17	113.47
	Female	65.90	111.44	72.51
	Person	93.90	144.28	104.47
All	Male	98.89	140.32	105.05
	Female	63.32	86.95	65.52
	Person	88.04	129.34	93.51

Source: Employment and unemployment survey, NSSO, 2004-05.

A5.1 Work force participation rate of different social groups, by states, in 2011-12

State	Social group				All
	ST	SC	OBC	Others	
Jammu & Kashmir	64.46	59.89	53.45	53.37	55.05
Himachal Pradesh	84.04	72.26	66.38	71	71.33
Punjab	53.03	57.08	54.19	54.25	55.25
Chandigarh	52.06	45.91	49.83	51.93	50.43
Uttaranchal	60.18	59.52	56.13	54.53	56
Haryana	43.43	53.46	46.1	50.74	49.96
Delhi	55.84	47.84	47.69	47.87	48.01
Rajasthan	73.75	63.02	60.47	52.53	61.19
Uttar Pradesh	46.28	57.63	54.15	45.57	52.93
Bihar	47.7	50.06	44.14	37.05	43.82
Sikkim	73.82	73.16	74.27	66.84	73.47
Arunachal Pradesh	55.01	48.95	56.66	57.04	55.52
Nagaland	48.99	35.62	68.81	55.31	48.87
Manipur	55.7	58.33	55.03	55.07	55.41
Mizoram	64.01	46.67	78.48	71.81	64.45
Tripura	53.44	61.34	54.42	51.62	54.62
Meghalaya	66.84	44.32	62.24	62.13	66.25
Assam	54.99	47.68	53.68	47.53	50.23
West Bengal	62.78	58.05	51.63	55.18	56.02
Jharkhand	59.92	55.01	53.74	47.91	54.48
Orissa	76.22	61.78	56.7	49.02	60.07
Chhattisgarh	75.14	67.39	70.05	56.36	70.32
Madhya Pradesh	67.65	59.41	58.1	47.96	58.32
Gujarat	69.99	61.34	61.13	55.63	60.76
Daman & Diu	52.69	52.53	50.38	67.64	58.73
Dadar & Nagar Haveli	47.61	53.11	44.02	62.13	52.78
Maharashtra	73.77	60.71	61.43	58.85	61.22
Andhra Pradesh	79.17	70.6	66.34	54.64	64.93
Karnataka	67.86	58.54	58.99	56.26	58.8
Goa	68.15	50.11	52.9	48.46	51.22
Lakshadweep	45.7	100	100	100	46.83
Kerala	73.91	61.58	50.3	55.22	52.78
Tamil Nadu	68.26	64.97	60.78	49.31	61.41
Pondicherry	100	61.02	49.58	48.78	50.54
Andmaan & Nikobar Islands	67.99		54.03	57.17	57.64
All India	68.42	59.46	56.8	52.44	57

Source: Employment and unemployment survey, NSSO, 2011-12.

A5.2 Proportion of self-employed workers across social groups, by states, in 2011-12, in per cent

State	Social group				All
	ST	SC	OBC	Others	
Jammu & Kashmir	61.82	52.41	55.27	58.45	57.66
Himachal Pradesh	69.68	58.45	62.06	67.63	64.57
Punjab	55.81	33.39	49.18	62.68	49.65
Chandigarh	65.46	23.76	26.13	40.21	35.03
Uttaranchal	82.61	62.37	63.36	70.19	67.71
Haryana	36.05	29.1	54.39	65.35	54.01
Delhi	24.41	31.05	28.37	33.53	31.81
Rajasthan	52.09	48.3	71.53	60.84	61.87
Uttar Pradesh	51.58	45.27	69.4	65.36	62.44
Bihar	32.21	28.02	54.82	68.14	51.46
Sikkim	76.77	81.07	69.03	58.46	71.74
Arunachal Pradesh	79.93	9.04	86.32	59.58	73.94
Nagaland	71.94	87.42	0	87.18	72.05
Manipur	62.88	68.19	68.22	55.88	65.03
Mizoram	68.18	26.38	97.6	66.22	68.71
Tripura	39.83	37.9	44.87	38.71	39.97
Meghalaya	64.64	10.28	31.54	65.86	64.08
Assam	83.52	72.39	53.62	69.23	67.41
West Bengal	25.67	39.05	42.07	50.7	45.23
Jharkhand	72.76	45.91	64.31	59.94	62.99
Orissa	59.94	50.98	63.98	60.43	59.44
Chhattisgarh	65.24	39.04	45.49	52.08	52.04
Madhya Pradesh	49.43	40.92	63.19	62.89	56.06
Gujarat	53.97	34.38	48.54	53.03	50.12
Daman & Diu	2.98	8.58	40.48	4.18	14.69
Dadar & Nagar Haveli	41.37	41.61	20.59	9.53	27.53
Maharashtra	34.27	26.96	49.84	50.81	45.25
Andhra Pradesh	42.84	21.67	47.06	55.59	43.46
Karnataka	48.79	22.65	52.28	49.97	46.54
Goa	24.75	15.22	23.91	29.56	27.58
Lakshadweep	22.98	0	56.51	0	23.14
Kerala	7.14	14.67	35.1	40.13	33.73
Tamil Nadu	40.86	15.62	34.07	23.5	29.97
Pondicherry	0	10.25	25.1	32.63	24.44
Andmaan & Nikobar Islands	79.49		28.96	28.28	34.2
All India	52.9	35.34	53.65	55.96	50.65

Source: Employment and unemployment survey, NSSO, 2011-12.

A5.3 Proportion of regularly employed workers across social groups, by states, in 2011-12, in per cent

State	Social group				All
	ST	SC	OBC	Others	
Jammu & Kashmir	17.85	23.04	20.59	22.86	22.17
Himachal Pradesh	9.34	19.9	16.2	23.71	20.52
Punjab	38.77	25.19	31.16	31.5	29.13
Chandigarh	34.54	41.54	68.58	57.28	56.8
Uttaranchal	9.79	10.37	18.31	22.27	18.59
Haryana	15.92	19.68	23.32	28.93	25.27
Delhi	68.67	60.92	67.67	65.09	64.81
Rajasthan	4.58	12.24	12	30.34	13.99
Uttar Pradesh	18.92	8.56	8.75	22.76	11.52
Bihar	5.35	5.19	4.54	13.42	6.15
Sikkim	17.86	15.13	26.18	36.36	23.28
Arunachal Pradesh	16.78	53.42	11.04	24.39	19.02
Nagaland	26.43	12.58	0	0.31	25.94
Manipur	13.62	15.66	15.33	22.65	15.5
Mizoram	23.47	73.62	2.4	20.44	22.99
Tripura	9.21	15.84	14.82	17.14	13.67
Meghalaya	16.24	56.46	41.06	23	17.26
Assam	6.38	13.34	23.02	12.86	14.77
West Bengal	13.42	13.7	17.37	19.39	17.25
Jharkhand	5.84	8.76	10.77	24.11	10.98
Orissa	4.01	10.56	10.54	24.36	11.47
Chhattisgarh	6.04	9.16	10.34	34.12	10.11
Madhya Pradesh	5.61	10.65	11	25.23	11.99
Gujarat	10.47	33.63	21.21	40.26	26.12
Daman & Diu	85.07	91.29	51.11	94.91	81.44
Dadar& Nagar Haveli	45.16	56.16	79.41	90.11	65.26
Maharashtra	14.39	29.51	26.1	33.02	28.33
Andhra Pradesh	9.42	18.22	17.59	27.84	19.31
Karnataka	12.93	18.75	22.77	33.68	23.77
Goa	47.51	77.25	69.02	60.67	60.74
Lakshadweep	45.05	0	18.05	45.05	44.04
Kerala	24.02	17.76	22.28	33.5	24.64
Tamil Nadu	13.21	23.63	27.7	58.95	27.31
Pondicherry	15.7	28.85	48.08	51.59	46.44
Andmaan & Nikobar Islands	15.95		60.53	49.84	47.8
All India	9.31	16.32	16.97	27.99	19.05

Source: Employment and unemployment survey, NSSO, 2011-12.

A5.4 Proportion of casually employed workers across social groups, by states, in 2011-12, in per cent

State	Social group				All
	ST	SC	OBC	Others	
Jammu & Kashmir	20.33	24.55	24.14	18.69	20.18
Himachal Pradesh	20.98	21.66	21.74	8.67	14.91
Punjab	5.42	41.43	19.66	5.82	21.22
Chandigarh	0	34.69	5.29	2.51	8.17
Uttaranchal	7.6	27.25	18.34	7.54	13.7
Haryana	48.03	51.22	22.29	5.72	20.71
Delhi	6.91	8.03	3.96	1.38	3.38
Rajasthan	43.33	39.45	16.47	8.82	24.14
Uttar Pradesh	29.5	46.17	21.85	11.88	26.04
Bihar	62.43	66.79	40.65	18.45	42.39
Sikkim	5.37	3.8	4.79	5.18	4.97
Arunachal Pradesh	3.29	37.54	2.64	16.03	7.04
Nagaland	1.63	0	100	12.51	2.01
Manipur	23.5	16.14	16.44	21.46	19.47
Mizoram	8.35	0	0	13.34	8.3
Tripura	50.96	46.26	40.3	44.15	46.36
Meghalaya	19.12	33.26	27.4	11.13	18.65
Assam	10.1	14.28	23.37	17.91	17.82
West Bengal	60.91	47.24	40.55	29.91	37.52
Jharkhand	21.4	45.33	24.92	15.96	26.03
Orissa	36.05	38.46	25.47	15.21	29.09
Chhattisgarh	28.72	51.79	44.17	13.8	37.84
Madhya Pradesh	44.96	48.44	25.81	11.88	31.95
Gujarat	35.56	31.99	30.25	6.71	23.76
Daman & Diu	11.95	0.13	8.41	0.91	3.87
Dadar& Nagar Haveli	13.47	2.23	0	0.35	7.21
Maharashtra	51.34	43.53	24.06	16.17	26.42
Andhra Pradesh	47.74	60.12	35.35	16.58	37.23
Karnataka	38.28	58.6	24.95	16.35	29.68
Goa	27.74	7.52	7.07	9.77	11.68
Lakshadweep	31.98	100	25.44	54.95	32.81
Kerala	68.83	67.57	42.63	26.37	41.64
Tamil Nadu	45.94	60.75	38.23	17.55	42.72
Pondicherry	84.3	60.9	26.82	15.78	29.12
Andmaan&Nikobar Islands	4.56		10.51	21.88	18
All India	37.79	48.34	29.37	16.04	30.29

Source: Employment and unemployment survey, NSSO, 2011-12.

A5.5 Work force participation rate of different social groups, by states, in 2004-05

State	Social group				All
	ST	SC	OBC	others	
Jammu & Kashmir	64.13	65.81	57.77	55.49	57.1
Himachal Pradesh	80.96	74.53	78.82	75.75	76.07
Punjab	55.07	62.75	64.67	61.06	62.28
Chandigarh	60.13	44.88	55.28	48.78	48.47
Uttaranchal	75.39	74.79	61.99	65.74	67.25
Haryana	65.19	65.88	64.73	60.77	63.16
Delhi	39.39	52.68	55.47	46.82	49.16
Rajasthan	84.66	72.83	74	58.65	71.68
Uttar Pradesh	66.1	67.91	62.09	51.44	60.71
Bihar	65.61	63.91	53.88	42.39	54.27
Sikkim	65.3	55.92	61.11	61.02	62.56
Arunachal Pradesh	70.91	64.55	63.35	66.62	69.56
Nagaland	70.61	50	72.44	61.17	70.12
Manipur	64.49	52.51	55.03	53.78	58.64
Mizoram	67.84	71.44	65.48	67.27	67.84
Tripura	47.06	47.16	43.41	46.09	46.02
Meghalaya	80.59	75.66	80.95	66.78	79.64
Assam	63.83	61.47	66.06	56.3	59.95
West Bengal	67.55	58.67	55.81	54.53	56.49
Jharkhand	76.86	62.96	63.99	52.35	65.14
Orissa	82.39	68.55	61.67	51.59	65.42
Chhattisgarh	85.5	76.69	76.43	51.55	76.49
Madhya Pradesh	84.39	75.79	70.27	54.81	70.15
Gujarat	83.14	77.19	74.63	60.42	70.97
Daman & Diu	65.75	32.82	49.03	61.11	56.68
Dadar & Nagar Haveli	77.02	58.4	73.68	78.05	76.82
Maharashtra	80.74	67.79	71.6	64.76	68.71
Andhra Pradesh	83.42	76.78	76.46	65.21	73.63
Karnataka	82.18	76.92	70.68	65.57	70.81
Goa	37.31	52.19	65.09	49.93	51.72
Lakshadweep	45.31	100	97.91	84.67	48.03
Kerala	71.03	63.36	51.94	59.15	55.4
Tamil Nadu	80.9	73.59	69.28	54.13	69.63
Pondicherry		63.34	53.38	50.33	55.01
Andaman & Nikobar Islands	41.2	33.33		58.48	58.38
All India	79.16	68.36	66.22	57.77	65

Source: Employment and unemployment survey, NSSO, 2004-05

A5.6 Proportion of self-employed workers across social groups, by states, in 2004-05, in per cent

State	Social group				All
	ST	SC	OBC	others	
Jammu & Kashmir	86.03	71.03	75.74	69.97	70.95
Himachal Pradesh	75.76	62.41	74.54	72.57	70.3
Punjab	27.92	38.46	58.01	72.38	57.38
Chandigarh	15.68	28.07	57.29	26.9	29.64
Uttaranchal	86.41	58.76	66.89	79.14	72.93
Haryana	92.4	36.83	66.12	72.78	62.05
Delhi	23.08	24.35	32.96	37.04	33.26
Rajasthan	68.15	56.68	81.16	68.96	71.87
Uttar Pradesh	53.12	57.64	78.21	70.97	71.44
Bihar	44.51	32.76	66.95	77.15	59.08
Sikkim	60.37	46.3	68.5	56.53	62.82
Arunachal Pradesh	86.62	30.73	70.38	58.75	78.62
Nagaland	80.8	0	87.03	74.67	80.69
Manipur	90.9	83.04	71.12	86.72	80.01
Mizoram	80.51	38.56	80.56	52.22	80.24
Tripura	51.14	45.92	52.42	51.73	50.13
Meghalaya	74.56	75.27	95	56.9	73.99
Assam	81.68	61.8	55.42	68.55	67.79
West Bengal	27.99	43.89	63.57	56.66	51.58
Jharkhand	72.25	49.93	69.5	60.18	66.42
Orissa	51.28	45.25	63.03	59.26	55.53
Chhattisgarh	63.73	31.86	46.35	53.22	50.49
Madhya Pradesh	45.8	37.33	67.38	65.3	56.98
Gujarat	40.01	20.37	54.57	59.37	49.4
Daman & Diu	7.23	51.62	58.24	42.13	38.39
Dadar& Nagar Haveli	45.71	0	38.11	25.31	41.38
Maharashtra	32.46	25.96	45.88	54.55	45.05
Andhra Pradesh	49.01	19.17	48.93	59.71	46.2
Karnataka	37.51	29.62	49.6	52.95	45.83
Goa	0	18.94	64.3	33.81	36.43
Lakshadweep	26.24	0	0	0	23.39
Kerala	18.13	18.76	42.33	48.6	40.5
Tamil Nadu	29.28	20.62	46.01	41.7	40.01
Pondicherry		13.58	35.51	40.36	31.18
Andmaan &Nikobar Islands	0	100		42.98	42.85
All India	52.33	38.43	60.12	60.99	55.2

Source: Employment and unemployment survey, NSSO, 2004-05

A5.7 Proportion of regularly employed workers across social groups, by states, in 2004-05, in per cent

state	Social group				All
	ST	SC	OBC	others	
Jammu & Kashmir	12.92	16.25	13.81	19.46	18.22
Himachal Pradesh	12.39	11.96	11.79	18.59	15.56
Punjab	64	23.97	19.8	22.83	22.83
Chandigarh	65.47	63.08	39.48	70.91	66.8
Uttaranchal	7.49	14.18	12.61	16.83	15.09
Haryana	7.6	16.8	20.84	24.11	21.29
Delhi	76.92	66.13	60.27	60.28	61.84
Rajasthan	5.49	11.7	8.53	22.19	11.23
Uttar Pradesh	12.29	6.23	8.01	22.17	10.62
Bihar	2.84	3.23	4.38	8.55	4.62
Sikkim	30.32	45.76	26.5	39.12	30.27
Arunachal Pradesh	10.08	64.14	6.68	27.24	15.03
Nagaland	17.93	100	8.36	20.5	17.73
Manipur	8.68	10.87	19.64	8.38	14.63
Mizoram	16.17	35.66	14.89	18.18	16.25
Tripura	9.47	13.3	14.38	23	15.49
Meghalaya	10.92	6.67	4.55	36.78	12.2
Assam	7.05	12.06	20.41	12.03	12.74
West Bengal	18.66	11.39	16.08	17.05	15.63
Jharkhand	3.56	9.33	7.77	23.53	8.88
Orissa	3.76	7.13	9.43	20.59	9.29
Chhattisgarh	3.91	9.09	7.89	35.2	8.76
Madhya Pradesh	3.4	11.39	9.37	25.12	11.27
Gujarat	9.71	21.02	12.86	27.58	17.9
Daman & Diu	4.94	40.81	24.45	40.3	29.12
Dadar & Nagar Haveli	23.45	73.96	60.31	67.03	32.89
Maharashtra	8.54	23.07	18.54	28.05	22.26
Andhra Pradesh	7.68	11.51	12.64	17.94	13.47
Karnataka	6.13	9.08	12.56	20.77	14.01
Goa	77.33	23.96	16.62	52.88	45.04
Lakshadweep	35.46	0	25.88	44.86	34.83
Kerala	12.11	16.67	18.8	27.72	20.82
Tamil Nadu	11.78	19.3	22.49	54.43	22.74
Pondicherry		17.34	34.26	56.45	31.9
Andmaan & Nikobar Islands	100	0		32.59	32.8
All India	7.17	13.01	12.82	22.93	15.16

Source: Employment and unemployment survey, NSSO, 2004-05

A5.8 Proportion of casually employed workers across social groups, by states, in 2004-05, in per cent

state	Social group				All
	ST	SC	OBC	others	
Jammu & Kashmir	1.04	12.72	10.45	10.56	10.82
Himachal Pradesh	11.84	25.62	13.66	8.84	14.14
Punjab	8.08	37.57	22.19	4.78	19.8
Chandigarh	18.86	8.85	3.22	2.19	3.56
Uttaranchal	6.1	27.06	20.5	4.03	11.98
Haryana	0	46.37	13.04	3.11	16.67
Delhi	0	9.51	6.77	2.68	4.89
Rajasthan	26.36	31.63	10.32	8.84	16.9
Uttar Pradesh	34.59	36.13	13.78	6.86	17.94
Bihar	52.65	64.01	28.66	14.3	36.3
Sikkim	9.31	7.95	5.01	4.35	6.91
Arunachal Pradesh	3.3	5.14	22.94	14.01	6.35
Nagaland	1.27	0	4.62	4.83	1.57
Manipur	0.43	6.09	9.24	4.9	5.36
Mizoram	3.32	25.78	4.55	29.59	3.51
Tripura	39.39	40.78	33.2	25.27	34.38
Meghalaya	14.52	18.06	0.45	6.31	13.81
Assam	11.27	26.14	24.17	19.42	19.46
West Bengal	53.34	44.72	20.35	26.28	32.8
Jharkhand	24.19	40.74	22.73	16.29	24.7
Orissa	44.96	47.63	27.54	20.14	35.18
Chhattisgarh	32.36	59.05	45.76	11.58	40.75
Madhya Pradesh	50.81	51.28	23.25	9.58	31.75
Gujarat	50.28	58.61	32.57	13.05	32.71
Daman & Diu	87.83	7.58	17.31	17.56	32.49
Dadar & Nagar Haveli	30.84	26.04	1.58	7.66	25.73
Maharashtra	59	50.97	35.58	17.4	32.69
Andhra Pradesh	43.31	69.32	38.43	22.34	40.33
Karnataka	56.36	61.3	37.83	26.28	40.15
Goa	22.67	57.1	19.09	13.31	18.53
Lakshadweep	38.3	100	74.12	55.14	41.78
Kerala	69.77	64.57	38.87	23.68	38.68
Tamil Nadu	58.94	60.07	31.49	3.87	37.25
Pondicherry		69.08	30.23	3.2	36.93
Andmaan & Nikobar Islands	0	0		24.43	24.34
All India	40.5	48.56	27.07	16.08	29.64

Source: Employment and unemployment survey, NSSO, 2004-05

A5.9 Average real daily wage (person) across social group, by state, in 2004-05, in rupees

State	Social group				All
	ST	SC	OBC	Others	
Jammu & Kashmir	294.78	170.85	233.25	224.85	218.39
Himachal Pradesh	264.91	192.02	216.66	301.14	255.02
Punjab	287.02	229.2	276.51	572.43	347.27
Chandigarh	282.43	288.79	258.34	529.67	468.29
Uttaranchal	353.01	160.66	212.92	325.07	252.56
Haryana	219.12	155.92	185.29	421.19	257.61
Delhi	464.07	194.92	277.95	421.26	339.82
Rajasthan	154.82	175.37	218.81	366.75	228.58
Uttar Pradesh	91.42	98.96	117.36	202.09	132.81
Bihar	102.56	82.03	116.69	209.95	109.81
Sikkim	337.74	269.69	340.03	323.8	332.68
Arunachal Pradesh	347.5	334.32	103.97	289.01	312.71
Nagaland	450.23	591.6	148.99	271.97	430.92
Manipur	403.22	361.37	308.99	305.26	328.39
Mizoram	427.84	735.35	311.42	519.01	431.41
Tripura	132.6	121.09	132.53	175.34	141.85
Meghalaya	226.82	134.81	325.54	391.43	242.42
Assam	184.77	152.67	160.11	218.45	190.76
West Bengal	102.71	141.99	181.59	253.25	204.02
Jharkhand	149.25	193.49	224.36	632.3	272.35
Orissa	86.74	107.33	148.62	320.9	152.72
Chhattisgarh	113.45	133.3	121.11	578.38	166.96
Madhya Pradesh	80.37	93.38	113.97	289.73	131.97
Gujarat	112.67	118.04	130.04	233.79	153.31
Daman & Diu	130.48	357.78	335.81	238.76	223.94
Dadar & Nagar Haveli	158.98	379.85	191.05	243.6	186.15
Maharashtra	113.71	162.87	182.14	305.47	218.6
Andhra Pradesh	108.17	101.95	124.9	219.3	138.5
Karnataka	108.2	131.99	185.17	358.89	218.46
Goa	182.74	228.21	200.59	304.62	283.78
Lakshadweep	331.7	181.87	344.93	452.65	337.1
Kerala	183.88	176.93	194.29	212.21	196.08
Tamil Nadu	153.13	133.2	203.83	760.1	206.46
Pondicherry		101.35	108.98	192.47	112.06
Andaman & Nikobar Islands	1128.1			349.89	354.91
All India	112.36	126.96	155.77	278.37	178.18

Source: Employment and unemployment survey, NSSO, 2004-05

A6.1 Regression Equation and estimators for rural workers of India

Equation

ln (Daily earnings)

$$= \beta_0 + \beta_1 \text{Yearsofeducation} + \beta_2 \text{Experiance} + \beta_3 \text{experiance}^2 \\ + \beta_4 \text{Femaleworker} + \beta_5 \text{Scheduletribeworker} + \beta_6 \text{Schedulecasteworker} \\ + \beta_7 \text{Otherbackwardclassworker} + \beta_8 \text{Easternregion} + \beta_9 \text{centralregion} \\ + \beta_{10} \text{Southernregion} + \beta_{11} \text{NorthEasternregion} + \beta_{12} \text{UTs} + \epsilon_i$$

Estimators

Variable	Coefficient value	Standard error	P value
Dependent variable			
ln daily earnings			
Independent variable			
Human capital variables			
Education	0.035***	0.001	0.000
Experience	0.012***	0.000	0.000
Experience square	-0.0004***	0.000	0.000
Other variable			
Female (Reference: Male)	-0.444***	0.006	0.000
Schedule tribe (Reference Others)	-0.174***	0.010	0.000
Schedule caste (Reference: Others)	-0.064***	0.009	0.000
Other backward class (Reference: Others)	-0.123***	0.009	0.000
Eastern Region (Reference: North Western)	-0.162***	0.009	0.000
Central region (Reference: North Western)	-0.18***	0.009	0.000
Southern region (Reference: North Western)	0.100***	0.009	0.000
North Eastern (Reference: North Western)	0.375***	0.027	0.000
UTs (Reference: North western)	0.253***	0.040	0.000
Constant	4.731***	0.016	0.000
No. of observations	35476		
R square	0.2749		

Note: *** shows the significance at 5% level of significance

Source: IHDS, 2011-12

A6.2 Regression Equation and estimators for urban workers of India

Equation

$\ln(\text{Dailyearnings})$

$$= \beta_0 + \beta_1 \text{Yearsofeducation} + \beta_2 \text{Experiance} + \beta_3 \text{experiance}^2 \\ + \beta_4 \text{Femaleworker} + \beta_5 \text{Scheduletribeworker} + \beta_6 \text{Schedulecasteworker} \\ + \beta_7 \text{Otherbackwardclassworker} + \beta_8 \text{Easternregion} + \beta_9 \text{centralregion} \\ + \beta_{10} \text{Southernregion} + \beta_{11} \text{NorthEasternregion} + \beta_{12} \text{UTs} + \epsilon_i$$

Estimators

Variable	Coefficient value	Standard error	P value
Dependent variable			
ln daily earnings			
Independent variable			
Human capital variables			
Education	0.090***	0.001	0.000
Experience	0.027***	0.000	0.000
Experience square	-0.0004***	0.000	0.000
Other variable			
Female (Reference: Male)	-0.496***	0.015	0.000
Schedule tribe (Reference Others)	0.054**	0.029	0.065
Schedule caste (Reference: Others)	-0.017	0.015	0.265
Other backward class (Reference: Others)	-0.092***	0.014	0.000
Eastern Region (Reference: North Western)	-0.097***	0.019	0.000
Central region (Reference: North Western)	-0.037***	0.017	0.031
Southern region (Reference: North Western)	0.114***	0.017	0.000
North Eastern (Reference: North Western)	0.380***	0.049	0.000
UTs (Reference: North western)	0.328***	0.024	0.000
Constant	4.169***	0.025	0.000
No. of observations	16527		
R square	0.3547		

Note: ***,** shows the significance at 5% and 10% level of significance.

Source: IHDS, 2011-12

A6.3 Regression Equation and estimators for Schedule tribe workers of India

Equation:

$$\begin{aligned} \ln(\text{Daily earnings}) &= \beta_0 + \beta_1 \text{Yearsofeducation} + \beta_2 \text{Experiance} + \beta_3 \text{experiance}^2 \\ &+ \beta_4 \text{Rural area} + \beta_5 \text{Female worker} + \beta_6 \text{Easternregion} \\ &+ \beta_7 \text{centralregion} + \beta_8 \text{Southernregion} + \beta_9 \text{NorthEasternregion} \\ &+ \beta_{10} \text{UTs} + \epsilon_i \end{aligned}$$

Estimators

Variable	Coefficient value	Standard error	P value
Dependent variable			
ln daily earnings			
Independent variable			
Human capital variables			
Education	0.050***	0.002	0.000
Experience	0.015***	0.001	0.000
Experience square	-0.0003***	0.000	0.000
Other variable			
Rural (Reference: Urban)	-0.416***	0.030	0.000
Female (Reference: Male)	-0.296***	0.015	0.000
Eastern Region (Reference: North Western)	-0.025	0.043	0.564
Central region (Reference: North Western)	-0.116***	0.042	0.006
Southern region (Reference: North Western)	0.127***	0.044	0.004
North Eastern (Reference: North Western)	0.565***	0.052	0.000
UTs (Reference: North western)	0.247***	0.064	0.000
Constant	4.704***	0.055	0.000
No. of observations	6168		
R square	0.3912		

Note: *** shows the significance at 5% level of significance.

Source: IHDS, 2011-12

A6.4 Regression Equation and estimators for Schedule caste workers of India

Equation:

$$\begin{aligned} \ln(\text{Daily earnings}) &= \beta_0 + \beta_1 \text{Yearsofeducation} + \beta_2 \text{Experiance} + \beta_3 \text{experiance}^2 \\ &+ \beta_4 \text{Rural area} + \beta_5 \text{Female worker} + \beta_6 \text{Easternregion} \\ &+ \beta_7 \text{centralregion} + \beta_8 \text{Southernregion} + \beta_9 \text{NorthEasternregion} \\ &+ \beta_{10} \text{UTs} + \epsilon_i \end{aligned}$$

Estimators

Variable	Coefficient value	Standard error	P value
Dependent variable			
ln daily earnings			
Independent variable			
Human capital variables			
Education	0.043***	0.001	0.000
Experience	0.016***	0.000	0.000
Experience square	-0.0003***	0.000	0.000
Other variable			
Rural (Reference: Urban)	-0.218***	0.012	0.000
Female (Reference: Male)	-0.470***	0.011	0.000
Eastern Region (Reference: North Western)	-0.195***	0.014	0.000
Central region (Reference: North Western)	-0.158***	0.013	0.000
Southern region (Reference: North Western)	0.071***	0.012	0.000
North Eastern (Reference: North Western)	0.077	0.068	0.256
UTs (Reference: North western)	0.301***	0.036	0.000
Constant	4.772***	0.025	0.000
No. of observations	14129		
R square	0.3098		

Note: *** shows the significance at 5% level of significance.

Source: IHDS, 2011-12

A6.5 Regression Equation and estimators for other backward class workers of India

Equation:

$$\begin{aligned} \ln(\text{Daily earnings}) &= \beta_0 + \beta_1 \text{Yearsofeducation} + \beta_2 \text{Experiance} + \beta_3 \text{experiance}^2 \\ &+ \beta_4 \text{Rural area} + \beta_5 \text{Female worker} + \beta_6 \text{Easternregion} \\ &+ \beta_7 \text{centralregion} + \beta_8 \text{Southernregion} + \beta_9 \text{NorthEasternregion} \\ &+ \beta_{10} \text{UTs} + \epsilon_i \end{aligned}$$

Estimators

Variable	Coefficient value	Standard error	P value
Dependent variable			
ln daily earnings			
Independent variable			
Human capital variables			
Education	0.051***	0.001	0.000
Experience	0.017***	0.000	0.000
Experience square	-0.0003***	0.000	0.000
Other variable			
Rural (Reference: Urban)	-0.216***	0.010	0.000
Female (Reference: Male)	-0.484***	0.010	0.000
Eastern Region (Reference: North Western)	-0.084***	0.017	0.000
Central region (Reference: North Western)	-0.084***	0.013	0.000
Southern region (Reference: North Western)	0.185***	0.014	0.000
North Eastern (Reference: North Western)	0.267***	0.067	0.000
UTs (Reference: North western)	0.364***	0.033	0.000
Constant	4.580***	0.022	0.000
No. of observations	20169		
R square	0.3331		

Note: *** shows the significance at 5% level of significance.

Source: IHDS, 2011-12

A6.6 Regression Equation and estimators for Others category workers of India

Equation:

$$\begin{aligned}
 & \ln(\text{Dailyearnings}) \\
 & = \beta_0 + \beta_1 \text{Yearsofeducation} + \beta_2 \text{Experiance} + \beta_3 \text{experiance}^2 \\
 & + \beta_4 \text{Rural area} + \beta_5 \text{Female worker} + \beta_6 \text{Easternregion} \\
 & + \beta_7 \text{centralregion} + \beta_8 \text{Southernregion} + \beta_9 \text{NorthEasternregion} \\
 & + \beta_{10} \text{UTs} + \epsilon_i
 \end{aligned}$$

Estimators

Variable	Coefficient value	Standard error	P value
Dependent variable			
In daily earnings			
Independent variable			
Human capital variables			
Education	0.080***	0.001	0.000
Experience	0.023***	0.000	0.000
Experience square	-0.0003***	0.000	0.000
Other variable			
Rural (Reference: Urban)	-0.215***	0.014	0.000
Female (Reference: Male)	-0.470***	0.017	0.000
Eastern Region (Reference: North Western)	-0.091***	0.018	0.000
Central region (Reference: North Western)	-0.081***	0.017	0.000
Southern region (Reference: North Western)	0.075***	0.020	0.000
North Eastern (Reference: North Western)	0.192***	0.045	0.000
UTs (Reference: North western)	0.334***	0.038	0.000
Constant	4.364***	0.030	0.000
No. of observations	11537		
R square	0.3572		

Note: *** shows the significance at 5% level of significance.

Source: IHDS, 2011-12

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