

# WAGE DISCRIMINATION IN INDIA: A DECOMPOSITION ANALYSIS

Sandhya Varshney\*

*Gender and Social discrimination are key issues of the Indian labour market. The central theme of the paper is to examine the gender bias and its persistence, despite laws mandating equal treatment at workplace. Globally, a gender gap exists and ensuring gender equality is a part of our 'Sustainable Development Goals'. The gender wage gap is either on the account on labour inputs- 'the explained gap', which is at entry level, or on the account of discrimination- 'the unexplained gap', which is due to wage negotiation. The study examines the relative roles played by endowment and that by discrimination in wage disparities. This paper uses data from post graduate students of Delhi University to examine the wage gap across gender and social classes. Separate wage equations have been estimated for males and females, and using the Blinder Oaxaca Decomposition technique, the relative roles of endowment and discrimination have been measured. The decomposition technique is important to measure the precise extent of discrimination. The study indicates a lower wage of women to an extent of 13.5 percent, of which the discrimination component is 6 percent. This is a chronic socio-economic malice, in spite of labour law reforms promoting gender neutrality. This indicates that promoting education and development of skills is crucial for declining gender wage gap.*

**Keywords:** Discriminate, Decomposition, Wage gap, Gender

## INTRODUCTION

Gender and social discrimination are key issues in the Indian labour market. This is inspite of equality given by the constitution of India and the fact that it considers education to be a fundamental right. This clearly shows the lack of commitment on the part of the government its evident in the heterogeneity of educational attachment across gender and social economic groups.

The gender and socio economic wage gap is notable not just for its persistence but also for its variation across regions and countries. This is despite laws mandating equal treatment for all at workplace. This inequality in wages and earnings are responsible for much of the disparity that exists in the assets, consumption and other indicators of the quality of life. This also tends to perpetuate and accentuate inequalities through their impact on human capital formulation. Therefore it is important to carefully explore the levels, trends and probable causes of wage and earning differentials.

## Discrimination Defined

Becker's (1971) theory of discrimination with testable behaviour implications based on a competitive labour market is often referred to as the neo-classical theory of discrimination. In his theory, the motivation for discrimination is based on a 'non pecuniary' variable – "taste for discrimination".

Defending Becker, Arrow (1972) defined discrimination in terms of employer's perception or reality, they discriminate because of uncertainty – lack of information about job applicants.

Akerlof (1976, 1980) incorporated social structure and said that a socially conscious individual will discriminate the group, as per the requirements of the social custom – specifically caste/ gender based discrimination.

---

\* Associate Professor, Dyal Singh College, Delhi University

These theories of labour market discrimination are invariably based on the micro economic foundation and have centred on the explanation of the causes for the discriminatory behaviour.

Market exclusion involves denial of access to employment and fair and equal wage payment to the discriminated workers. Discrimination brings income losses to the group and pre market discrimination causes inequality in access to education and skill development further perpetuating low levels of human development and chances of employment. The economic discrimination hampers economic growth, brings unequal income distribution and deprivation to the discriminated groups. The discrimination also affects productivity by reducing the magnitude of investment in human capital and return on this investment. (Birdhall Sabots 1991).

Economic Models of discrimination can be classified in two classes (T.Aggarwal 2014).

1. Competitive Models—agents act individually
2. Collective Models – groups act collectively against each other.

Generally considered is the first one, where as mentioned earlier, we can have both ‘taste based’ and ‘statistical’ discrimination. In the former category employers may think a particular group is less productive” and the discriminating employer is unwilling to hire them unless this group compensates the employer by accepting a lower wage for identical productivity. Statistical Discriminatory models were defined by Arrow (1972). These models assume no prejudice by the employer. Firms believe the gender/ socio-economic class are less productive on the basis of some empirical evidence and use gender / social class as a screening device and pay less wages to that class.

## METHODOLOGY TO MEASURE DISCRIMINATION

We can use the technique called the ‘Blinder – Oaxaca’ decomposition (Blinder 73, Oaxaca 73) to measure the disadvantaged groups. This decomposition is a statistical method that explains the means of the dependant variable between the two groups by decomposing the gap into that part that is due to differences in the mean values of the independent variable within the groups, on the one hand and the group differences in the effects of the independent variable, on the other hand. It is named after the two economists, Alan Blinder and Ronald Oaxaca, who introduced it to the economic literature in the early 1970’s. This technique has provided a practical way to apply Becker’s (1971) definition of discrimination as unequal treatment among equivalent people due to race or gender. This decomposition has become a basic toll for studying racial and gender wage differentials and discrimination. This Blinder – Oaxaca decomposition divides the wage differentials between two groups into a part that is explained by group wage differentials in productively characteristics such as experience, subject categories, family background and other human capital variables and a residual part that cannot be explained or accounted for by such differences in wage differentials. This “unexplained “ part is often used as a measure for discrimination. Thus the differences in wages or the wage gap between two groups is divided in two parts.

1. A portion explained by the average group differences in productively characteristics is called “endowments “ differences.
2. Unexplained portion is called the labour market “ discrimination “ difference.

## METHOD AND FORMULA

The data is divided into two groups A and B, an outcome variable Y ( log wages ) and human capital variables such as subject category, experience, family background as predictors. The question is how much of the mean outcome difference.

$$R = E(Y_a) - E(Y_b)$$

where  $E(Y)$  denotes the expected value of the outcome variable, is accounted for by group differences in the predictors.

The decomposition technique used in the present study is called a 'threefold' decomposition, that is the outcome difference is divided into three components,

$$R = E + C + I$$

defined as :

$E$  – the differential due to the endowment effect

$C$  – measures the contribution of differences in the coefficient

$I$  – is an interaction term accounting for the fact that differences in endowments and coefficients exist simultaneously between the two groups. Therefore Component  $E$  captures the differential due to differences in endowment and component  $C + I$  capture the discrimination component.

## REVIEW OF LITERATURE

There have been many studies using Blinder – Oaxaca decomposition to see the motion of discrimination regarding wage differentials. There are evidences of interpersonal wage distributions even within occupations which are quite substantial. Many Indian studies have decomposed the wage differential into separate components of 'explained' and 'unexplained' gaps.

The studies have specifically looked into labour market discrimination on the basis of social castes and both on the basis of caste and gender studies by Madheswaran and Att well (2000) Deshpande (2011) and Thoarat (2010) have found a lot of evidence of discrimination on the basis of caste. They have showed that variations in income and status between the reserved classes and so-called forward classes.

Madheswaran and Attewell have used NSSO data for various rounds for regular salaried urban labour market. Their main conclusions were that

1. Discrimination caused 15% lower wages for SC/ST's as compared to equally qualified others.
2. Discrimination was present both in the public and private but discrimination was larger in the private sector.
3. Discrimination components was smaller than the endowment component, the former being close to 32% and latter 68% in explaining wage gap.

Another study by D. Mukerjee et al (2011) explored inequalities by type of jobs, gender and social classes. The study examined the relative roles played by discrimination during entry and wage setting, and that by endowment in explaining the occupational and earning disparities have been examined through Decomposition technique. The study was based on NSSO data. The findings suggest increasing disparities in recent times caused by both Discrimination and Endowment gaps. The gender earning difference was predominantly due to discrimination whereas the earnings between social classes on the other hand is mainly because of endowment differences.

T. Aggarwal (2014) has also examined these issues and found that wage gaps are there both across gender and social groups. He found discrimination component larger than the endowment component for gender inequalities 'Discrimination' component accounted for 67% - 80% of wage gap. Across social class, endowment component was more important accounting for 31 to 38% of the wage gap.

All these studies highlight the important of 'Decomposition' techniques to understand the importance of the 'unexplained' or 'discrimination' factor is wage gaps across gender on social groups.

## RESULTS OF THE STUDY

As seen, the ‘Oaxaca’ model first estimates the group specific regression models and then performs the decomposition. The decomposition carried out is the three – fold decomposition defined above.

### Decomposition by Gender

According to table, the mean of log hourly earnings (wages) is 1.74 for men and 1.60 for women, giving a difference of .135, implying a difference of 13.5% less wages for women. The model has log hourly earnings as the dependent variable and experience and subject streams as dependent variable. The decomposition is done according to gender. The decomposition of wage gap is divided into three parts. The first part reflect the mean increase in women’s wages if they had the same characteristics as men. The increase is about .075, this indicates differences in endowments account for about a little more than half the wage gap. The second term quantifies the change in women’s wages when applying the men’s coefficients to the women’s characteristics. The third part is an interaction term that measures the simultaneous effect of differences in endowments and coefficients. Basically if we look at existing literature both the second and third term together measure the ‘Discrimination’ portion of the wage gap, here the figure is .06, indicating a 6% difference in wages or that women earn 6% less as a result of discrimination.

### Decomposition by Social Groups

In the study carried out, the model again uses the same dependent and independent variables but the decomposition is done according to social classes general category and reserved category. According to the results, the ‘general’ category or so called forward classes have a mean of hourly earnings as 1.75, the reserved classes have a mean of log hourly earnings as 1.57, giving a gap of .187, meaning the difference of wage is about 18.7%.

Further breakup shows the wage gap as explained by endowments is .087, roughly a little less than half, and due to discrimination it is .10, a little more than half, indicating a strong presence of discrimination against the reserved classes. The study clearly shows the presence of social stratification which results in exclusion. This is there despite reservation. Public education has been able to mitigate some exclusion and has been able to compensate slowly.

**Table 1 : Blinder – Oaxaca Decomposition for Gender (Number of obs = 600)**

<b>Loghour 1year</b>	<b>Coef.</b>	<b>Std. Err.</b>	<b>z</b>	<b>P&gt; z </b>	<b>[95% Conf.</b>	<b>Interval]</b>
Differential						
Prediction_1	1.744152	.50345	34.64	0.000	1.645478	1.842827
Prediction_2	1.608898	.06154	26.14	0.000	1.488282	1.729514
Difference	.1352544	.0795097	1.70	0.089	-.0205818	.2910906
Decomposit~n						
Endowments	.0593077	.0257619	2.30	0.021	.0088153	.1098001
Coefficients	.1056684	.785458	1.35	0.179	-.0482785	.2596153
Interaction	-.0297217	.0202439	-1.47	0.142	-.069399	.0099556

**Table 2 : Blinder-Oaxaca Decomposition for Social Groups (Number of obs = 600)**

Loghour 1year	Coef.	Std. Err.	z	P> z	[95% Conf.	Interval]
Differential						
Prediction_1	1.759024	.0482361	36.47	0.000	1.664482	1.853565
Prediction_2	1.571187	.0662059	23.73	0.000	1.441426	1.700949
Difference	.1878361	.0819143	2.29	0.022	.0272871	.3483851
Decomposit~n						
Endowments	.087056	.0356583	2.44	0.015	.0171669	.156945
Coefficients	.1654313	.082068	2.02	0.044	.0045888	.0068818
Interaction	-.0646512	.0355301	-1.82	0.069	-.134889	.0049865

## CONCLUSION AND POLICY IMPLICATIONS

Global participation in higher education has expanded greatly prospects of higher education participation outside of the elite cultural social and economic groups, one thought in the past as mere fantasy – are now an undeniable fact. Opening of opportunities to all by providing equal treatment by law and rules and regulations in the formal sector have a dominant role. There has been a diffusion of scientific and technical knowledge and developmental goals have focussed on higher education to enhance productivity.

Yet we still find evidence of ‘discrimination’ across gender and social classes. Gender discrimination can be due to both ‘sticky floor’ and ‘glass ceiling’ effect. Statistical discrimination can be due to low labour participation values of women as they have the social burden of household responsibilities, therefore men are thought to be: More reliable or stable workers.

2 All women dropping out of workforce is a high probability, but as they move up the social ladder, employers become more confident of their work culture, discrimination declines. With high levels of investment in education, their commitment can increase. This issue is a source for concern as many laws have been passed but we are still far from achieving gender equality. This means human capital potential of women cannot be utilised fully.

The other serious cause of concern is wage inequalities associated with India’s caste system. Discriminatory practices emerge as a result of social background factors, unequal access to formal learning activities. The large ‘endowment’ differentials in wages observed in the case of social groups also suggest pre labour market discriminatory practices with respect to education. Unequal labour market outcomes have their roots in discrimination in the past also.

Thus market exclusion leads to market failures, denial of access to employment, fair and equal wage payment & hence losses to that group. The policy implication calls for interventions to overcome the consequences of market failures, various types of affirmative and positive action policies for the discriminated groups are needed. Two policy decisions, “Economic Empowerment” and ‘Equal opportunity’ (Newman and Thoarat 2007) are needed.

## References

- Aggarwal, T. (2011), 'Returns to education in India', *Journal of Quantitative Economics*. Vol 10 No 2
- Becker G (1964), 'Human Capital'. Working Paper, NBER, New York
- Blinder AS (1973), 'Wage Discrimination: Reduced Form and Structural Estimates.' *Journal of Human Resources*, 8
- Deogharia PC (2009), 'Globalisation, Labour Market and Employment', *Jharkhand Journal of Development and Management Studies*, Vol 7(3), July-Sept.
- Jan Ben Stata Journal
- Mincer, J (1974). 'Schooling, Experience and Earnings', *Columbia University Press*.
- Oaxaca R (1973) : Male Female Wage Differentials in Urban Labour Market, *International Economic Review*, 14
- Madheswaran S (2006) : 'Caste Discrimination in the Indian Urban Labour Market': An Econometric Analysis. *RISEC Vol 53, No 3*.
- Madheswaran S. + P. Attwell (2007): Caste Discrimination in the Indian Urban Labour Market: Evidence from NSS.'
- EPW Vol 42, No 41
- Mukerjee D + R Majumder (2011): 'Occupational Pattern, Wage Rates and Earning Disparities in India: A decomposition analysis., *IER Vol 46, No 1*
- Thorat S K (2005): *Reservation Policy for the private sector : Why and How*, SugarvaPrakashan, Pune.