

WAGE DIFFERENTIAL DETERMINANTS BETWEEN MIGRANT AND LOCAL CONSTRUCTION LABOURERS IN NOIDA AND GREATER NOIDA

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Abstract

The infrastructural development of Noida and Greater Noida has led to the creation of a major construction labour market in these cities. What started out as a surge in construction labour demand for their infrastructural projects has been meted out by both migrant and local construction workers. However, there appears to be a wage differential between these migrant and local labour classes. We investigate this differential and attribute its determinants through Blinder-Oaxaca decomposition analysis of Blinder's Wage Differential Equation (using primary data). We also find that the determinants are of varying magnitude in the case of both migrant and local labourers. This imparity necessitates for a revision of labour laws and wage policies of Uttar Pradesh.

JEL Classification: E24, J31, J39, J71

Keywords: Labour Income, Low Wage, Wage Differentials, Wage Distribution, Wage Gap, Wage Inequality

1. INTRODUCTION

For any country, regardless of its status of development or its procurement of scientific automation, labour remains at the heart of its production activity. Labour is so crucial to the development of an economy that Adam Smith went on to call it "...the first price, the original purchase money that was paid for all things. It was not by gold or silver, but by labour, that all the wealth of the world was originally purchased." (Smith, 1776). Karl Marx too joined Smith on highlighting the importance of labour in his definition, addressing it as "...the sole power which can create an additional value over its subsistence, establishing its predominant role as a factor input that increases the economic value of products." (Marx, 1950). Thus, gains from labour are not only in the form of the wages that a country's workforce earns, but also in the form of economic progress as a whole that comes from each worker's contribution. However, wages must not be overlooked in this process. In a capitalist society, wages are indispensable for the welfare of its workforce. Reasonable wages drive workers to work and unreasonable ones lead to exploitation, while also being a disincentive to labourers. It is for this reason and other

issues of morality that equal wages for equal work are institutionalised in many countries across the world (including ours). However, differences in wage across social groups do seem to find their way into our system. This is evident from the collegium of studies on social inequality. While gender is one such social group, wage differences are also visible between migrants and local natives of any place. This has been reported in many sectors, including construction (Srivastava and Sutradhar, 2016). As per the estimates of National Sample Survey Office (NSSO), the construction sector is one of the major sectors attracting migrants and is also a sector which has seen a rapid increase in employment in the recent years. The highest percentage of short duration migrants are workers in the construction sector (36.2%) (Srivastava, 2011). This isn't very surprising. After all, at a rate of 78%, construction is the second most absorptive sector (Mitra, 2006).

Theoretically, the primary reason for the movement of workforce from one sector and/or region to another is the differences in wages and this could reflect in the differentials in employment opportunities or wages or both. These are in turn, a result of development patterns, lead-

ing to the growth of certain sectors in specific locations. Hence, migration is a significant driver of development and promotes labour to make use of its optimum capabilities. In modern India, we find evidences of this in the inland migration of people towards metropolitan cities and other Tier 1 cities¹. This influx of labour force and refugee settlements in Delhi made Sanjay Gandhi push for the enactment of UP Industrial Area Act of 1976 which provisioned for the creation of NOIDA (Guha, 2007). NOIDA has now developed into a fully-fledged city. NOIDA's shortage for accommodating further population was meted by Greater NOIDA, which also saw a similar boom in construction sector like NOIDA did. This created a boom in the demand for construction. The workforce needed for this was supplied by both migrant and local working classes (not just in construction, though). In addition to this, when NOIDA's market for labour is compared with other Tier 1 cities² (Bengaluru, Chennai, Delhi, Ahmedabad, Pune, Kolkata, Hyderabad), it is unique in its composition and structure. Part of it could be reasoned with its rapid development experience in just 15-20 years. Although the labour market has both migrant and local workers, it is the local workers which seem to show a reluctance to work (or at least that's what the contractors told us when we interviewed for our study). The labour-intensive requirements of the construction sector and the shortage of labour supply (especially locals) has implications for wage, employment and migration of workers. We set out to answer if there exists a wage differential between local and migrant workers of NOIDA and Greater NOIDA; and try to understand what attributes account for this differential.

2. LITERATURE REVIEW

The most eye-opening piece of work on migrant labourers in the construction sector of Delhi NCR is that of Srivastava and Sutradhar (2016). Their study, which dealt with migrants alone, found that "eight-hour wages of unskilled workers were below the legislated minimum in all the three administrative regions (Delhi, Gurgaon and Noida)"³. They added another surprising finding to this, about the status of migrant construction workers that there is no impact of labour regulations- "Provisions of various labour laws such as the Interstate Migrant Workmen's Act; Contract Labour Act, Minimum Wages Act, Workmen's Compensation Act, Payment of Wages Act etc. remain unimplemented." This highlights the abomi-

nable standards of work where migrant labourers are employed.

Another important thing the authors need to add here is that our study has been heavily modelled on and inspired from a similar study conducted in Kerala by KC Baiju and Shamna TC (2019). We adopt similar methodology for collection of data and analysis of wage equation. The equation which estimates the magnitude of each variable in widening/narrowing the wage differential was initially given by Alan Blinder (1973) when he estimated the determinants responsible for racial wage gap in Nixon's America. The decomposition analysis that follows is called Blinder-Oaxaca decomposition. Its etymology is eponymous to the economists who first used it to study racial (Blinder) and rural/urban (Oaxaca) wage gaps. Varinder Sharma (2014) further tweaked the equation a bit and extended it to decompose determinants of wage differential between local and migrant farm servants in Punjab. This study uses the same decomposition analysis and estimation methods to investigate the wage differences between local and migrant construction labourers in NOIDA and Greater NOIDA.

3. RESEARCH METHODOLOGY

This study uses primary data sources to determine the factors responsible for the wage gap between migrant and local labourers in the construction sector of Noida and Greater Noida. For this sector, short-term data on migrant labourers is unavailable in NSSO. The floating migration patterns (seasonal, occupational and temporary) of construction workers are further not captured in both NSSO and Census data. We used random sampling to locate 2 sectors in Noida and Greater Noida separately. These sectors turned out to be Sector 116 in Noida and Sector 16-B in Greater Noida.

We then scouted these sectors for active construction sites and randomly selected 3 sites from each of them to collect primary data. Quite interestingly, these sectors show high urban infrastructural development in the form of residential apartments, residential colonies, shopping malls and commercial spaces. A pilot survey also indicated that a large number of migrant construction labourers work on these sites. The target sample size was of 100 construction labourers which would contain a mix-up of both locals and migrants. Our survey had far more mi-

¹The tier-wise classification follows from the memorandum published by Ministry of Finance, Government of India. "Re-classification of cities/towns on the basis of 2001 Census – grant of House Rent Allowance (HRA) and Compensatory (City) Allowance (CCA) to Central Government employees." No.2(21)/E. II. (B)/2004.

²See 1.

³The minimum wages for eight hours of work, as set by the governments of UP for NOIDA when their study was conducted, are as follows- unskilled worker – INR 149, skilled worker – INR 187.08. These are not specific to the construction sector, as was mentioned in Srivastava & Sutradhar (2016).

Figure 1: A map of Delhi and Noida (not to be scaled)



Figure 2: A map of Delhi and Greater Noida (not to be scaled)



Figure 3: A map of Noida showing Sector 116 (marked with a yellow pointer) & Sector 16 B (marked with a red pointer).



Source: Author's compilation

grant labourers than local workers and this was further confirmed with the contractors on these sites who told us that there are fewer local workers available in the market than migrant labourers. We also interviewed 4 contractors at these sites for qualitative inputs to our investigation. To better understand our analysis, we need to guide you through the structural components that make up our sample.

3.1 Sample Demography

We are going to walk through this section with the help of charts and descriptive data. Our sample sizes are- migrant workers (76) and local workers (27). Figure 1 and 2 tell us about the age wise composition of our samples. The migrant group is much younger than the local group, on average.

Figure 4: Age of migrant construction workers

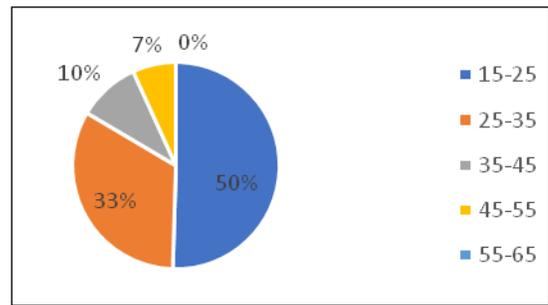
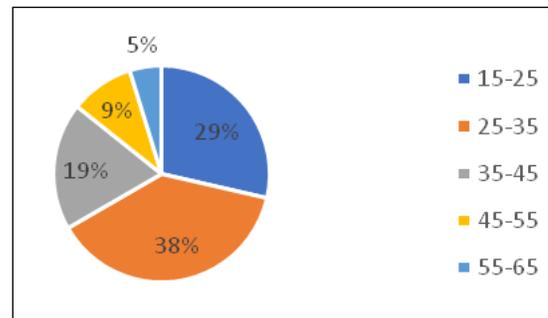


Figure 5: Age of local construction workers



Source: Author's calculations

Next, we look at the gender-wise breakdown of our sample. Male workers compose 86% of our migrant sample and 80% of our local sample. Married workers make up 86% of our migrant sample and 85% of our local sample. A caste wise breakdown follows in the illustrations below:

Figure 6: Caste wise composition of migrants

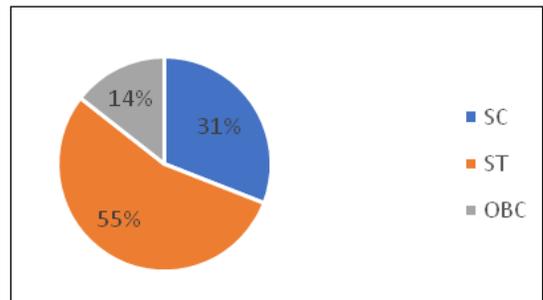
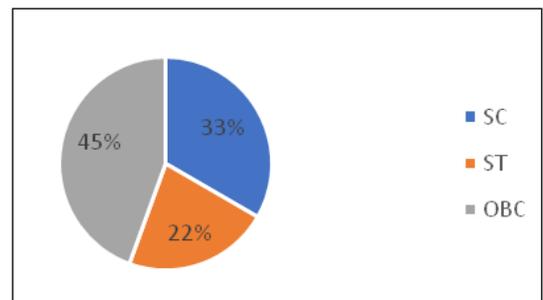


Figure 7: Caste wise composition of locals

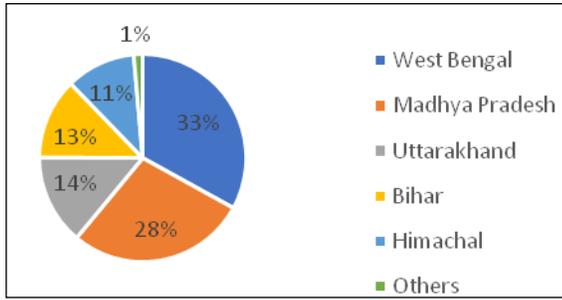


Source: Author's calculations

As far as educational qualifications are concerned, the migrant sample consists of 72 % literate and 28% illiterate workers. In the local sample, 70% of workers are literate and 30% of workers are illiterate.

Figure 8 gives us the state-wise make up of our migrant sample. We now turn to the kinds of jobs these workers do on sites. 88% of migrant workers are employed as masons and 11% as helpers/unskilled labour. The remaining of them work as painters. Whereas 60% of locals work as masons, 14% as carpenters, 9% as painters, 9% as plumbers and the rest of them work as helpers/unskilled labourers. Locals also earn wages per day at an average of INR 550 and migrants get an average of INR 410 for the same.

Figure 8: State-wise composition of migrants



Source: Author's calculations

3.2 Blinder's Wage Equation

The wage equation which we deploy for our analysis was first introduced by Blinder in 1973. Another version of the same equation was formulated to estimate wage differences between local and migrant farm workers in rural Punjab (Sharma, 2014). Taking cue from this study, Baiju and Shamna (2019) replicated the same equation for their study in Kerala's construction sector. We use the same equation in our analysis to understand the factors behind the wage differential between migrants and local labourers.

The variables we observe in our estimation are- age, caste, education, gender, marital status, educational qualifications, work experience, channel of recruitment, skill at handling equipment and nature of construction sites⁴.

The wage equation is:

$$\ln W_L = \alpha_L X_L + u_L \quad (1)$$

$$\ln W_M = \alpha_M X_M + u_M \quad (2)$$

W - wage rate in INR

X - variable being investigated as a determinant of wage differential

u_i - error term

α_i - slope coefficient (unit change in $\ln W_i$ for a unit increase in X_i)

Subscripts M and L - group for which the equations are being estimated (M for migrants and L for locals)

From the properties of ordinary least squares (OLS), we know that lines of regression pass through the mean values of variables being estimated. Therefore,

$$\ln \bar{W}_L = \hat{\alpha}_L \bar{X}_L \quad (3)$$

$$\ln \bar{W}_M = \hat{\alpha}_M \bar{X}_M \quad (4)$$

The bar on the variables indicates that these are their mean values and the hat indicates the OLS estimated values of coefficients. If migrants received the same wages as locals (for the migrants' endowment of the determinants), then their average wage would be:

$$\ln \bar{W}_M' = \hat{\alpha}_L \bar{X}_M \quad (5)$$

To estimate the difference in wages, we subtract (5) from (3). This gives us the difference between the mean wages of locals and mean wages that the migrants would get if they were paid on the same terms as locals. This difference translates into how difference in endowments affects the differential (as shown here):

$$\ln \bar{W}_L - \ln \bar{W}_M' = \hat{\alpha}_L \bar{X}_L - \hat{\alpha}_L \bar{X}_M = \hat{\alpha}_L (\bar{X}_L - \bar{X}_M) \quad (6)$$

Likewise, subtracting (4) from (5) gives the difference between the wages that migrants would get if paid on same terms as locals and what they're actually being paid (as shown here):

$$\ln \bar{W}_M' - \ln \bar{W}_M = \hat{\alpha}_L \bar{X}_M - \hat{\alpha}_M \bar{X}_M = \bar{X}_M (\hat{\alpha}_L - \hat{\alpha}_M) \quad (7)$$

Adding equation (6) and (7) we get

$$\ln \bar{W}_L - \ln \bar{W}_M = \hat{\alpha}_L (\bar{X}_L - \bar{X}_M) + \bar{X}_M (\hat{\alpha}_L - \hat{\alpha}_M) \quad (8)$$

$$\ln \bar{W}_L - \ln \bar{W}_M = \hat{\alpha}_L \Sigma (\bar{X}_L - \bar{X}_M) + \bar{X}_M \Sigma (\hat{\alpha}_L - \hat{\alpha}_M) \quad (9)$$

Equation (9) gives us the overall wage gap between local and migrant workers. It is important to note that there are two components to this difference- firstly, difference in endowments of the variables being observed ($\bar{X}_L - \bar{X}_M$) if they were evaluated on the same terms as locals; and secondly, difference between the rates of return ($\hat{\alpha}_L - \hat{\alpha}_M$) if both locals and migrants had the same endowments of variables being observed. The latter is also taken as a reflection of discrimination or wage differentials.

3.3 Estimation Of Wage Equation And Decomposition Analysis

After deriving the wage equation, we now estimate this equation using econometric software techniques. The results of our estimation and decomposition analysis have been summarised in Table 2. Firstly, we make the following remarks on the basis of our estimation-

- i. *Age* is found to be a significant determinant in the case of migrants but not for locals. In fact, local workers as

⁴Major- if it's a new site or large-scale renovation; Minor- if it's only repairs or small-scale renovation.

old as 55 years of age were found in our local sample. We learned from the contractors that older workers are hired only if they bring in appropriate skills like carpentry/knowledge of electric works.

- ii. *Marital status* significantly determines the wages of migrants but not of locals. There exists economic literature backing this point (der Loop, 1994). The majority of migrant labour are married and seek higher wages for their families. This was confirmed by all the contractors that we interviewed. We show later in this paper from the results of our decomposition analysis that marital status is a dominant factor in positively affecting the wage differential between migrants and locals.
- iii. *Education* is found to be a significant component in determining the wages of migrants, but not those of locals. It is evident from our study that the share of illiterate workforce in both local and migrant workers is the same. This paradox remains unexplained because in our interviews with contractors, it was revealed that the literacy or educational qualifications of labourers are not a criteria when construction labour are hired. This hints that an unrevealed selection process is carried out by the agents who bring these migrants into cities for work.
- iv. *Caste* significantly determines the wages that migrants get. However, it is not an important determinant in the wages of locals. Another interesting thing to note here is that this could probably be because of the make-up of our sample. The migrant sample had much large number of SC/ST workers than the local one. Existing literature (Srivastava and Sutradhar, 2006) shows that there has been a disproportionate rise in the number of migrant SC/ST labourers in Delhi NCR's construction sector- whereas the caste-wise demography of local construction labourers has remained the same.
- v. The *type of work* that labourers have been employed to do reflects directly in their wages. This is only obvious because different jobs require different levels of skills which is reflected in their pay. For example, in our sample (and interviews) we found that carpenters, plumbers and electricians are paid higher than painters and masons (who are in turn paid relatively higher than helpers or unskilled labourers). This difference between skilled and unskilled workers makes sense since it is in accordance with the minimum wage laws- however the difference in wages between distinct pools of skilled labourers asks for a skill-based decomposition analysis (we don't do that here).
- vi. *Gender*, unsurprisingly, is also a significant determinant of wages in both the groups. Male participation is

higher in physically hazardous work. Contractors informed us that they prefer not hiring female labourers. The only role female workers are hired as is that of helpers/unskilled labourers.

- vii. The *channel of recruitment* for migrants affects their wages significantly, unlike the locals. Migrant workers told us that they receive their wages after a significant amount has been deducted in the form of "commissions". Not only this, but they're forced to take part in extremely hazardous jobs. This has a negative impact on their wages.
- viii. Work experience and skill at handling equipment, like gender, is unsurprisingly an equally responsible factor in determining the wages of both local and migrant labourers. Human capital that is more proficient and trained in a job is of more value as labour than those who are inexperienced and unskilled.

Hence, the factors which significantly determine wages for both migrants and locals are- work experience, skill at handling equipment, channel of recruitment, gender and type of work. The factors that significantly determine the wages of only migrants are- caste, education, marital status and age. This is complemented by the high R^2 values of our regression.

We now get to the decomposition analysis. Column 6 in Table 1 tells us about the magnitude with which every factor contributes to the wage differential between migrant and local labourers. Column 7 helps us identify which variables have a positive or negative effect on determining the wage differential (it shows the difference in contributions of factors). From the decomposition analysis, we make the following remarks:

- i. Variables that reveal to have a dominant impact on the migrants for the wage differential are- marital status, type of work, gender, education and channel of recruitment. Of these, gender and marital status appear to be the most dominant ones.
- ii. Variables that are found to have a dominant impact on the local workers for higher wages are- caste, work experience, size of the site and skill at using equipment. Of these, work experience remains to be the most dominant factor, followed by caste. A higher average age of locals also hints at local workers having more work experience than migrants.
- iii. When we estimated the role of age as a variable, we did not take into consideration any dummies for the same. This prevents us from assessing its dominance in the wage differential for migrants. However, what can be commented with certainty is that this variable is respon-

sible for lower wages of migrants when compared with locals.

iv. There appeared to be a need for investigating why these migrant workers continued to work for relatively lower wages. Comparing the MGNREGS wages in their

Table 1: OLS estimates of wage equation and decomposition analysis (p-values in parentheses, tested for significance at 5% LOS)

Observed Variables	Dependent Variable is Wage Rate in INR					
	Migrant Coefficient ($\hat{\alpha}_M$) for $N_M = 76$ (in equation 2)	Local Coefficient ($\hat{\alpha}_L$) for $N_L = 27$ (in equation 1)	\bar{X}_M	\bar{X}_L	$\hat{\alpha}_L(\bar{X}_L - \bar{X}_M)$	$\bar{X}_M(\hat{\alpha}_L - \hat{\alpha}_M)$
Age	0.49 (0.00)*	0.018 (0.700)	26.72	35.38	0.1559	-12.61184
Marital status Married = 1 Unmarried = 0	0.351 (0.001)*	0.004 (0.998)	0.86	0.85	0.0	-0.29842
Education Literate = 1 Illiterate = 0	0.112 (0.021)*	-0.09 (0.833)	0.79	0.714	0.0068	-0.15
Caste SC/ST = 1 OBC/Others = 0	0.19 (0.04)*	0.00071 (0.6199)	0.841	0.55	0.0	0.15
Type of work Masonry, Plumbing, etc = 1 Helper = 0	0.495 (0.00)*	0.37 (0.01)*	0.38	0.659	0.1	-0.04
Gender Male = 1 Female = 0	0.247 (0.001)*	0.691 (0.00)*	0.863	0.809	-0.03	-0.38
Recruitment Agent = 1 Other = 0	-0.003 (0.0494)*	-0.00074 (0.881)	0.660	0.74	0.0	-0.01
Work Experience Yes = 1 No = 0	0.551 (0.0002)*	0.032 (0.001)*	0.704	0.66	0.002	0.34
Skill at using equipment Skilled = 1 Unskilled = 0	0.5 (0.0013)*	0.36 (0.0227)*	0.159	0.33	0.06	0.02
Size of construction site Major = 1 Minor = 0	-0.00331 (0.0501)	-0.07 (0.61)	0.818	0.571	0.01	0.05
Intercepts	0.0	0.0031				
F value	2.88	13.041				
R² value	0.57	0.491				
Diff due to all endowments $\hat{\alpha}_L \Sigma(\bar{X}_L - \bar{X}_M)$					0.3047 or 30.47%	
Difference due to coefficients $\bar{X}_M \Sigma(\hat{\alpha}_L - \hat{\alpha}_M)$						0.07

Source: Author's calculations

Table 2: Results of decomposition analysis

1. Wage differential due to different endowments $\hat{\alpha}_L \Sigma (\bar{X}_L - \bar{X}_M)$	0.3047
2. Wage differential due to differences in coefficients $\bar{X}_M \Sigma (\hat{\alpha}_L - \hat{\alpha}_M)$	0.07
3. Intercept differentials (0.00-0.0031)	-0.0031
4. Wage differential given as (2 + 3)	0.0669
5. Overall wage differential (1 + 4)	0.3716
The % of wages that migrants lose because of structural causes	37%

Source: Author's calculations

home states with their site wages, it is found that although the wages on-site are lower than their fellow workers, but these wages are much higher than the MGNREGS wages they would have earned back in their villages.

Keeping aside these remarks, the results of our decomposition analysis are further illustrated in Table 2.

4. CONCLUSION

The last section makes it evident that migrant construction workers in NOIDA could be earning more than 37% of their daily wages if not for the structural changes. We also find that different variables are responsible with varying intensity for determining the wage differential between migrant and local construction workers in NOIDA and Greater NOIDA. A number of factors influence the employment status of migrant workers vis-à-vis their local counterparts in the construction sector. This, in turn, has a direct impact on their wages, social security and quality of life at large. (Baiju and Shamna, 2019).

In this paper, we have identified how variables such as age, gender, marital status, education, caste, state of nativity, work experience, source of recruitment, skill at handling equipment and nature of work have an immense influence on wage rates. All of this is with reference to the construction sector in NOIDA and Greater NOIDA, Uttar Pradesh.

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Drawing from Srivastava & Sutradhar (2016), it is evident that poverty is anchored in the labour process, and the other-ness of migrant workers disenfranchises them, systematically stripping them of their bargaining power. Other factors, mentioned above, further serve to exacerbate inequalities.

A vast chunk of the Indian economy functions in 'disparate, irregular and fluid' ways. Policy literature on the subject, more often than not, assumes that self-employment is the principal mode of employment in the sector. There is also a lack of clarity as to the size of the sector (Breman, 1996). This, in turn, serves as an impediment to effective legislation, and laws made to bring about transformative change in the sector, prove to be toothless. The construction sector may have a higher degree of formalisation when compared to, say, agriculture, but it still remains largely informal. This imposes costs on both workers and the economy at large. Workers are deprived of the benefits that legislation in the formal sector offers them and the State is deprived of tax revenues, leading to less than desirable effects on the economy. Our research further goes on to show that in spite of the presence of minimum wage laws, employment protection legislation and right to equal pay, migrant construction workers are not paid on par with local labourers and recruiters continue to exploit this differential. This has necessitated an imminent revision of labour laws and wage policies of the state to ensure that migrants do not continue to suffer the loss of their welfare.

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