Thailand and The World Economy
P-ISSN: 2630-0931
E-ISSN: 2651-0529
Homepage : https://www.tci-thaijo.org/index.php/TER
**Vol. 40, No.3, September - December 2022 Page [15-32]**

# Income Differentials between Migrant and Non-Migrant Informal Workers: A Study of Urban Odisha

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Received 10 September 2021, Received in revised form 28 December 2021,
Accepted 3 January 2022, Available online 31 August 2022

## Abstract

This paper attempts to find out the income differentials between the migrant and non-migrant informal workers, and the same is explored with respect to gender. For this purpose, the present study collects household level primary data from the slum dwellers followed by a multi-stage stratified sampling method. The methods of analysis of variance and binary logistic regression model are employed to analyze the data. The migration status, living in the category of land, gender, social groups, type of employment, and the general education level have emerged as the main reasons for income differentials among migrant and non-migrant informal workers. The results show that the average income of migrants is higher than that of non-migrants, albeit the non-migrants enjoy relatively better living conditions, sanitary facilities, local unity, and job security than the migrants. Irrespective of the migration status, the study finds that there is a need for provisioning improvement in the area of basic facilities like health, education, and other social security in urban Odisha, India.

**Keywords:** Regional Migration, Informal Employment, Income Differential
**JEL Classifications:** R23, J46, J31

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# 1. Introduction

The rural to urban migration is closely related to informal labour markets, particularly in the developing countries. The lack of gainful employment, coupled with poverty in rural areas, has pushed people out of their villages in search of a better existence in the cities of developing countries (e.g., Todaro, 1969, 1976; Harris & Todaro 1970). This resulted in the substantial growth of the informal sector[1] in the cities due to the lack of skills of migrants and shortages of jobs in the formal sector (ILO, 1999). The developing country like India is facing a rising trend of informal employment[2] in the urban areas (e.g., Gupta, 1993; Basant, 1994; Breman, 1996; Bhattacharya, 1998; Srivastava & Sasikumar, 2003; NCEUS 2008; Srija&Shirke, 2014; Kalyani, 2016; ILO, 2016; NSSO 73rd Round Report, 2017; Himanshu, 2019; Jha & Lahoti, 2021). Again, within the informal sector, there are conflicts of interests and differences in the nature of jobs, risk factors, income, etc. between migrant and non-migrant workers.

The present study, therefore, attempts to make a comparative study of migrant and non-migrant workers in the informal sector of the economy in the urban areas of Odisha. For this purpose, the study conducted a primary survey of informal households in the Cuttack City of Odisha, an eastern state of India, as this is the oldest city and the first capital which has sustained and provided mass informal employment since its inception.

The main objective of this paper is to identify the income differential between migrant and non-migrant informal workers, and the factors that determine the income differentials. The rest of the paper is organized as follows: Section 2 reviews literature, Section 3 describes the data and methodology, Section 4 conducts empirical analysis and discusses the results, and finally Section 5 draws conclusion and policy implications.

# 2. Literature review

The 'Blinder-Oaxaca Decomposition Theorem' of 1973 is one of the most pioneering works to empirically study discrimination in wages, but the same can be applied to studying empirically the differential in income of different groups of informal workers. Blinder (1973) found the existence of wage discrimination among the male-female and the white-black workers in the American economy due to unequal income distribution, differences in the 'age-wage-profile' of the workers, occupational status, membership with union, job experience and the educational discrimination in USA.

On the other hand, Oaxaca (1973) experienced that the male-female wage differentials in labour markets exist due to the differences in the culture, tradition, and

[1] The informal sector encompasses largely unrecognized, unrecorded and unregulated small-scale activities including small enterprises, household enterprises, self-employed activities, viz., street venders, cleaners, shoe-shiners, hawkers, etc. ILO (2004) defines the informal sector as essentially covering the unorganized spectrum of economic activities in commerce, agriculture, construction, manufacturing, transportation and services, which absorbs as much as 60 percent of the labour force in urban areas of developing countries.

[2] Informal employment consists of employment in both formal and informal sectors, with people working as self-employed or casual labourers. Informal employment consists of more than 92 percent of total employment, and contributes to almost 50 percent of the national income of India.

the overt discrimination within the same occupation in USA. However, the traditional theory failed to explain the existence of racial income differences (Loury, 1977). According to Loury (1977), the income of black workers is lower than white workers because of the very low investment in their human capital and the acquisition of market valued characteristics of the blacks and also because of the 'taste for discrimination' for the blacks. Similarly, the differences in working conditions, gender, occupational exposure, employment arrangements, health conditions and the migration status are the main reasons for the income differentials among the workers (migrants and non-migrants) in Europe (Perez et al., 2012). The observation has also been made about the existence of gender-wise wage discrimination in the world. Providing a lower wage to the women is a common phenomenon in most of the South Asia, Middle East & North African countries of the world, and it is mostly due to the lack of employment generation capacity and the minimum wage rate (ILO Report, 2013 and ILO Flagship Report, 2020-21).

The main drivers of income inequalities are economic growth, technical change, trade globalization, financial globalization, financial deepening, less regulated labour markets, redistributive policies and education (Dabla-Norris et al., 2015; Vo et al., 2019). According to them, these drivers of income inequalities vary across the Advanced Economies (AEs), and Emerging Markets & Developing Countries (EMDCs). Anser et al. (2020) found inverted U-shaped relationship between income inequality and economic growth in some of the selected countries. Similarly, the recent trend of wage discrimination among male and female continue to grow (ILO Report, 2019). The women face wage discrimination because of the gender disparities, risk of unemployment and lack of education, skill or training. Thus, the 'equal pay for work of equal value' has become a myth, particularly in the informal sector of the urban areas in recent years.

Banerjee (1983) explained that a potential migrant has the ability to know his/her real-income-differentials at the time of urban informal sector employment or unemployment rather than the formal sector. The huge income differential between the formal and informal sectors is due to different factors, like a lack of human capital and institutional barriers. The income differential also exists with poor workers at a lower standard of living because of the absence of trade unions, minimum wage legislation, unemployment, and welfare benefits in the traditional economies (Sharif, 2000).

Some of the studies in India experienced that the probability of a person being poor is low in a large city as compared to any other urban areas, and the probability is low also in the case of migrant people belonging to a higher caste than the lower caste category (Kundu & Sarangi, 2007; Ramaswamy, 2013; Datta, 2016). The existence of different levels of monthly per capita income and consumption in urban and rural areas is due to the impact of urbanization and globalization, caste structure, and nature of work. Similarly, Padhi et al. (2019) experienced that defeminization, informalization and casualization of labour are matters of concern for gender-based wage discrimination in the urban labour market. Non-monetary factors rather than monetary factors, such as education, health, social protection and social problems also play important roles in explaining increasing inequality in India and the world (Himanshu, 2019; Hanushek &Woessmann, 2020; World Economic Situation and Prospects, 2020; Economic Survey, 2020-21).

The income differentials and inequality are at all time high with the outbreak of COVID-19, which is called 'Pandemic's Inequality' (Angelov &Waldenstrom, 2021). The empirical study by Chen et al. (2021) indicated a negative relationship between the World Pandemic Discussion Index (WPDI) and income inequality with most of non-OECD countries, whereas positive relationship with OECD economies. This inequality

rises because of the 'pandemic's magnitude over time across the countries' and 'spatial concentration of economic activities'. Similarly, during the lockdown periods of COVID-19 Pandemic in India and over the world, there is a significant rise in income inequality due to layoffs, fewer working hours, job losses, wage cuts, emerging new and online markets, and more cases and deaths due to COVID-19 specifically for low-wage earners and part-time workers (Angelov & Waldenstrom, 2021; Aspachs et al, 2021; Finance & Development, 2021; Jha & Lahoti, 2021; Tan et al., 2021).

From the literature survey, we could find that the existing literature is dominated by the discussion of income differentials or wage differentials between black and white people, male and female workers, or formal and informal workers. There is little research available on the income differentials within the informal sector itself (e.g., between migrant and non-migrant, or male and female informal workers). Similarly, many studies are available in USA, Europe, South Asia, Middle East and North African countries, and in India at national level/ aggregate level. There are few studies available at a disaggregated level on informal workers, more specifically in urban Odisha. Thus, the understanding of the dynamics of internal migration and income differentiation in urban informal labour markets assumes utmost significance, both in terms of theoretical underpinnings and policy formulation at a targeted level.

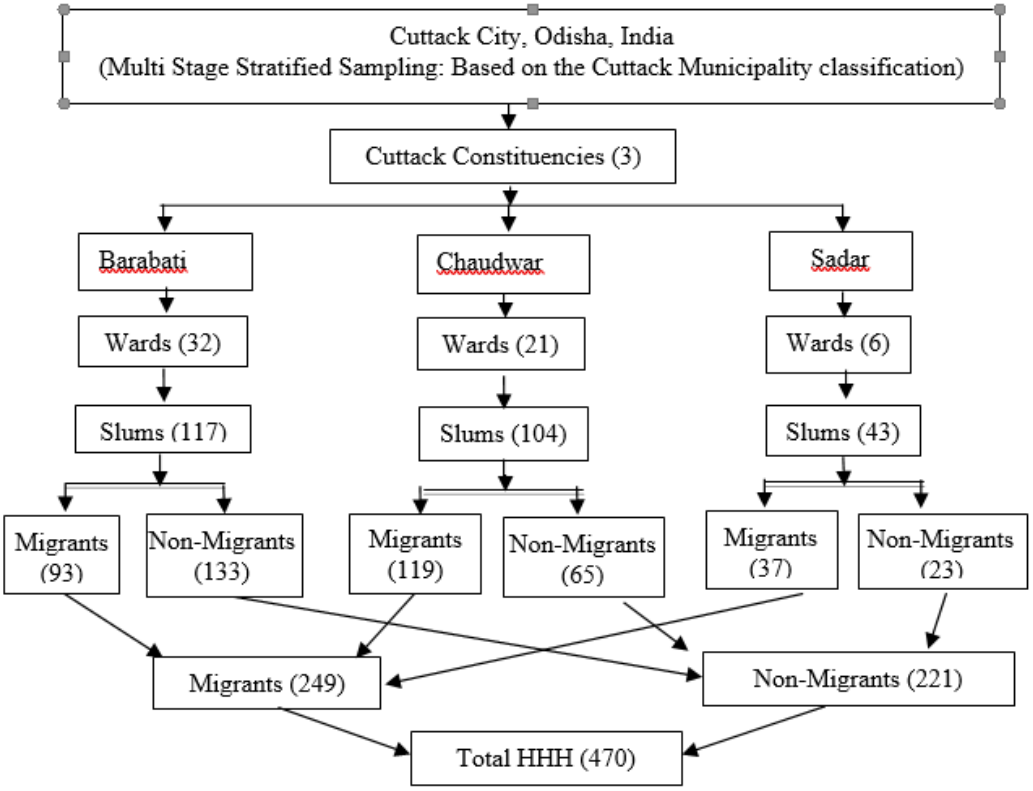
## 3. Data and Methodology

The present study is based on primary survey data collected from the slums of Cuttack city, Odisha in June-August 2015. However, for a broad understanding of Cuttack city in general and slums in particular, we have collected secondary data on different indicators from the Cuttack Municipality. The slum data basically consist of information regarding the total number of slums situated under the different Cuttack municipal constituencies and under the different wards. The information regarding the number of households, the size of the slum population, and whether the slum is situated on government or private land, etc. are collected. The primary data are collected on different variables of the slum dwellers of Cuttack city by using a well-structured schedule (The schedule can be made available on request).

The scope of the primary survey is limited to 470 numbers of household's heads (HHH), based on 10 percent populations of the total selected slums (slums are selected on the basis of various socio-economic conditions and information available from secondary sources). The total households include both migrant and non-migrant slum-dwellers. The households are chosen on the basis of their household head's present occupation and types of employment in the informal sector. In this way, a multistage stratified sampling method has been applied to choose the households. The respondents are chosen on the basis of the household head's present occupation, whether formal or informal and migrant or non-migrant, followed by the municipality classification of Cuttack city.

According to the Cuttack Municipality Classification (CMC), Cuttack city is classified into three political constituencies, namely, Barabati, Chaudwar, and CTC Sadar. According to the latest data collected, there are 264 slums spread over 59 wards under these three constituencies. However, the numbers of respondents are chosen at constituency level. The total sample size is spread over three constituencies, namely Barabati, Chaudwar and Sadar with sample sizes 226, 184, and 60, respectively. The respective numbers of households and household heads (HHH) in these three constituencies are 14,329, 13,963, and 3,734 which totals 32,026 households. The details of the methodological steps followed in selecting the sample could be referred to in Figure 1.

Figure 1: Methodological Steps for Selecting the Sample




Source: Authors' Own Compilation

## 4. Empirical Analysis and Results Discussion

### *4.1 Socio-Economic Conditions*

The social characteristics of the households of the informal workers are classified into five categories, i.e., gender (male and female), social group (Scheduled Caste, Scheduled Tribe, Other Backward Class and General), the type of employment (self-employed, wage-employed, casual labourer, contract labourer, and unpaid labourer), livings in category of land (government land and private land) on the basis of their migration status. The socio-economic profiles of the respondents, household heads (HHH) are presented in Table 1. The values expressed in the percentage are given in parenthesis.

The socio-economic profiles of the respondents help us understand the respondents. From the sample of 470, the male informal workers (78%) are higher than the female informal workers (22%) in both the groups of migrants and non-migrants. The numbers of married workers including widowed, divorcee and separated (56%) are higher among migrants than the non-migrants (44%). But, in the case of unmarried informal workers, the non-migrants (60%) are more than the migrants (40%).This may be due to the fact that unmarried migrants usually prefer to travel to different parts of the country whereas married migrants are usually having less mobility, and they prefer to the nearby urban areas.

Table 1: Socio-Economic Profile of the Respondents (HHH)

| Indicators | | Whether the HHH Migrated? | | Total (%) |
|---|---|---|---|---|
| | | Yes (%) | No (%) | |
| Gender | Male | 194 (53.0) | 172 (47.0) | 366 (77.9) |
| | Female | 55 (52.9) | 49 (47.1) | 104 (22.1) |
| Marital Status | Married | 181 (55.9) | 143 (44.1) | 324 (68.9) |
| | Unmarried | 39 (40.2) | 58 (59.8) | 97 (20.6) |
| | Widowed | 16 (53.3) | 14 (46.7) | 30 (6.4) |
| | Divorcee | 12 (66.7) | 6 (33.3) | 18 (3.8) |
| | Separated | 1 (100.0) | 0 | 1 (0.2) |
| Religion | Hindu | 217 (53.2) | 191 (46.8) | 408 (86.8) |
| | Muslim | 32 (51.6) | 30 (48.4) | 62 (13.2) |
| Social Group | Schedule Cast (SC) | 58 (40.6) | 85 (59.4) | 143(30.4) |
| | Schedule Tribe (ST) | 24 (35.3) | 44 (64.7) | 68(14.5) |
| | Other Backward Class (OBC) | 62 (65.3) | 33 (34.7) | 95(20.2) |
| | General | 105 (64) | 59 (36) | 164(34.9) |
| General Educational Level | Not Literate | 73 (51.8) | 68 (48.2) | 141(30) |
| | Primary | 59 (49.2) | 61 (50.8) | 120(25.5) |
| | Upper Primary | 37 (55.2) | 30 (44.8) | 67(14.3) |
| | Secondary | 67 (55.4) | 54 (44.6) | 121(25.7) |
| | Higher Secondary | 9 (69.2) | 4 (30.8) | 13(2.8) |
| | Graduate &Above | 4 (50.0) | 4 (50.0) | 8(1.7) |
| Livings in Category of Land | Government Land | 100 (70.9) | 41 (29.1) | 141(30.0) |
| | Private/Own Land | 149 (45.3) | 180 (54.7) | 329(70.0) |
| Type of Employment | Self Employed | 69 (50.4) | 68 (49.6) | 137(29.1) |
| | Casual Labourer | 108 (62.1) | 66 (37.9) | 174(37.0) |
| | Regular Wage Employed | 65 (43.9) | 83 (56.1) | 148(31.5) |
| | Contract Labourer | 6 (85.7) | 1 (14.3) | 7(1.5) |
| | Unpaid Labourer | 1 (25.0) | 3 (75.0) | 4(0.9) |
| Total | | 249 (53.0) | 221 (47.0) | 470 (100) |

Source: Authors' Calculations from Field Survey Data

There are mostly two religious groups or categories of respondents in our sample, i.e., Hindu (86.8%) and Muslim (13.2%). Although the absolute number of Hindu migrants is more than that of the Muslim, in percentage, Muslim migrants are more than Hindus as the Muslim population in Odisha is very small (2.2%), whereas the Hindu population is very high (93.6%). The reason for the relatively greater migration of Muslims than Hindus may be due to the fact that the economic backgrounds of Muslims are weak as compared to those of Hindus.

However, it is interesting to note that in the informal sector, the respondents who belong to the General Category are the highest (35%), followed by SC (30%), OBC (20%) and ST (15%). In percentage terms, migration among the General and OBC categories is high as compared to that of SC and ST categories. Here, social factors dominate economic factors as the reasons for migration. Factors like lack of information, network or references, risky jobs, emotional bond, disrespect, harassment, etc. play important roles in explaining low migration among the underprivileged sections of the society, i.e., SCs and STs.

The data on the general education level of the informal workers shows that there is no significant difference in the education level between migrants and non-migrants

except at the level of secondary and higher secondary education. Thus, it may be stated that the education level of the participants does not matter when entering the informal sector employment in the Cuttack city of Odisha for both migrant and non-migrant workers.

The observation regarding the category of land where they lived showed that more migrant informal workers are living on the government land (71%) as compared to non-migrant informal workers. Nevertheless, both migrant and non-migrant informal workers prefer to live on the government land as they do not have to pay any rent, and even if they had to pay to the government officials or to the local goons, the amount is very small.

In this study, it is generally found that both migrant and non-migrant informal workers are working as casual labourers in the informal sector, but most of the non-migrant informal workers are employed on regular wages as compared to migrant workers. We find that regular jobs are essential in households as domestic help, and households prefer to hire locals for trust and safety reasons.

### *4.2 Living Conditions*

The informal sector workers generally live in very poor conditions. It is observed that these workers living in slums will have even worse surroundings and environmental conditions. However, it is important to assess their living conditions to suggest improvements in their standard of living. The environmental aspects of the informal sector workers are discussed under the physical location of the HHs, latrine facility, under-ground-sewerage system, type of drainage system, garbage disposal facility, and the frequency of garbage collection, among others.

From our observation, it is clear that informal workers, both migrants and non-migrants are found to be residing at the non-residential areas (about 86%). This is the fact that most of the respondents have no latrine facility, with 184 households (39.1%). Only 30 percent of households have their own latrine facilities, whereas 13.6 percent and 9.4 percent households use shared pour-flush latrines or free public pour-flush latrines. But, among migrants, the highest percentage goes towards the no latrine facility (46.6%) followed by shared pour-flush latrines (20.9%), own latrine dry pits (20.1%). On the other hand, migrants who are staying in rented houses have the proper drainage system, but most of the respondents are not aware of the benefits of the proper drainage system. On garbage collection, it seems that slum areas are being neglected by Cuttack Municipal Corporation (CMC).

To sum up, on most of the parameters of socio-economic profiles and living conditions, the informal workers in the slums are not doing well. However, non-migrants are relatively in a better position than migrants in the informal sector. This is possibly due to the fact that most non-migrants have voting rights and power, which they could exercise to get basic public facilities. The role of the CMC in maintaining the slums, particularly on the sanitation front, is questionable. There is a need for government intervention in creating awareness among the slum dwellers about health, hygiene and the environment besides ensuring basic facilities.

### *4.3 Income Differentials between Migrant and Non-Migrant Informal Workers*

In order to understand the income differentials between migrant and non-migrant informal workers, the primary data on the monthly income of household heads was collected from both migrant and non-migrant workers. The study also attempts to find the income of the migrants before their migration. Precaution and care have been taken to arrive at unbiased data by employing cross checking questions and information. The study hypothesizes that there is no income difference between migrant

and non-migrant informal workers. The descriptive statistics of the income of the migrant and non-migrant respondents are presented in Table 2.

Table 2: Income of Migrant and Non-Migrant Informal Workers

| Descriptive Statistics | | | | |
|---|---|---|---|---|
| Migration Status | Income (in rupees) | | | |
| | Minimum | Maximum | Mean | Std. Deviation |
| Migrants | 0.00 | 18000.00 | 3278.2553 | 3680.76 |
| Before Migration (Rural) | 0.00 | 10000.00 | 1156.9660 | 2138.75 |
| Non-Migrants (Urban) | 0.00 | 50000.00 | 2305.6511 | 3705.01 |

Source: Authors' estimation from the Field Survey Data

From the descriptive statistics in Table 2, we could see that there is a significant difference in the household head's monthly income of the migrants before migration and the current income. The average monthly income of the migrants increased almost three times after migration (the before and after migration average income are Rs. 1,156.97 and Rs. 3,278.26 respectively). At the same time, the standard deviation of the migrants' current income is very high as compared to their income before migration. There is a significant difference between the migrant's maximum income prior to migration and their current income.

The mean and standard deviation of the income of the non-migrant workers are Rs 2,305.66 and Rs 3705.01 respectively. Looking at the mean and standard deviation, the migrants are doing well over non-migrants on income criteria, as the average income of the migrants is higher than that of non-migrants, and at the same time, variability in income is less for the migrants as compared to urban non-migrants (See Table 2).

### *4.4 Different Group-wise Income Variation of Informal Workers*

The variation in income of the migrants and non-migrants is analyzed by the statistical technique, the analysis of variances (ANOVA) and the result is presented in Table 3. For this purpose, we have considered different sub-groups, namely, living in the category of land, gender, social categories, religion, type of employment, and level of education.

In this study, the null-hypothesis (H0) and the alternative hypothesis (H1) are stated as H0: there is no difference in mean incomes for all groups, and H1: there is difference in mean incomes for all groups. The null hypothesis for the migration status (migrants or non-migrants) of the respondents explains that the mean incomes are equal. But the p-value is 0.000, which is less than the significance level of 0.05. Thus, we reject the null hypothesis and conclude that the migration status of the respondents has an impact on the different mean incomes. The same result was also evident from the simple analysis of the descriptive statistics. The result also shows that there exists a different income level between the groups and within the groups of the migrants.

Similarly, the ANOVA analysis for the living in the category of land (government land and private/own land), gender (male and female), types of employment (self-employment, regular wage employment, casual labourer, contract labourer and household unpaid labourer), social group (SC, ST, OBC and General) and educational level (illiterate, primary, upper primary, secondary, higher secondary, graduate and post graduate) are associated with a p-value of less than 0.05. In the same way, therefore, we reject the null hypothesis and conclude that the mean income between the groups and within the groups is different based on their respective

categories. However, in the case of religion (Hindu and Muslim), the F-ratio is 1.01 and the associated p-value is reported as 0.314. Thus, the null hypothesis is not rejected, and hence we can conclude that there is no difference in the mean of income per month across different religions of informal workers.

Table 3: Different Group-wise Income Variation of the Respondents (ANOVA)

| Current Income of Informal Workers (Group-wise) | | | | | |
|---|---|---|---|---|---|
| Name of the Variables | Sum of Squares | Df | Mean Square | F | P-value |
| Migration Status (Migrant & Non-migrant) | | | | | |
| Between Groups | 11.636 | 1 | 11.636 | 32.063 | .000 |
| Within Groups | 169.845 | 468 | .363 | | |
| Living in Category of Land (Govt. land &Non-Govt. land) | | | | | |
| Between Groups | 2.725 | 1 | 2.725 | 7.134 | .008 |
| Within Groups | 178.756 | 468 | .382 | | |
| Gender (Female & Male) | | | | | |
| Between Groups | 18.458 | 1 | 18.458 | 52.990 | .000 |
| Within Groups | 163.022 | 468 | .348 | | |
| Social Group (SC, ST, OBC & General) | | | | | |
| Between Groups | 5.222 | 3 | 1.741 | 4.602 | .003 |
| Within Groups | 176.259 | 466 | .378 | | |
| Religion (Hindu & Muslim) | | | | | |
| Between Groups | .394 | 1 | .394 | 1.018 | .314 |
| Within Groups | 181.087 | 468 | .387 | | |
| Type of Employment (Self, Casual, Regular, Contact & Unpaid) | | | | | |
| Between Groups | 11.011 | 4 | 2.753 | 7.509 | .000 |
| Within Groups | 170.470 | 465 | .367 | | |
| Educational Level (Not literate, Primary, Upper-Primary, Secondary, Higher Secondary, Graduate & Above) | | | | | |
| Between Groups | 5.779 | 5 | 1.156 | 3.052 | .010 |
| Within Groups | 175.702 | 464 | .379 | | |

Source: Authors' Estimation from the Field Survey Data

To sum up from the ANOVA analysis, it can be concluded that the income variations or the income differentials exist between the groups and within the groups across different categories (namely, living in the category of land, type of employment, caste, gender, migration status, and educational level) except for their religious status. However, it is to be noted that there are no different categories of Muslims in Odisha, and Muslims are in fact classified under the General category. So, the socio-economic-educational factors play a role in the income differential among informal workers.

### *4.5 Determinants of Income Variation - Logistic Regression Analysis*

In order to understand the determinants of income variation among informal workers, separate logistic regression models are employed. The separate studies are conducted for 'migrant and non-migrant', 'male', and 'female' workers. The estimated results are presented in Table 4, Table 5 and Table 6 respectively.

In the model, the dependent variable (Y) is the monthly threshold level of income of the informal workers. If Y=1, the respondent's threshold level income is positive and higher than the household consumption level, and if Y=0, the respondent's

threshold level income is negative and lower than the household consumption level[3]. In this analysis, we consider two levels of threshold monthly income by estimating the minimum consumption level per-person per day as given by Tendulkar and Rangarajan panels. According to these two important panels for consumption expenditure; in urban areas, the minimum or the threshold levels of consumption per person per day are Rs. 33 and Rs. 47 respectively. The monthly household level consumption is estimated by multiplying the number of days (30) and the number of dependencies in the respective households.

Table 4: Determinants of Income Variations of Migrant & Non-Migrant Informal Workers

| Dependent Variable: Monthly threshold level of income of informal workers (Positive =1 and Negative =0) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Independent Variables | Model 4.1 Threshold level of income, Rs. 33/day (Tendulkar Panel) | | | | Model 4.2 Threshold level of income, Rs. 47/day (Rangarajan Panel) | | | |
| | Coeff. | Std. Err. | z | P>z | Coeff. | Std. Err. | z | P>z |
| Migration Status | 1.553 | 0.295 | 5.26 | 0.00* | 0.818 | 0.284 | 2.88 | 0.00* |
| Gender | 1.363 | 0.355 | 3.83 | 0.00* | 1.359 | 0.261 | 5.20 | 0.00* |
| Living in Category of Land | 0.720 | 0.312 | 2.31 | 0.02** | 0.449 | 0.335 | 1.34 | 0.18 |
| Self-Employed | 0.947 | 0.829 | 1.14 | 0.25 | -0.264 | 0.782 | -0.34 | 0.73 |
| CasualLabourer | 0.308 | 0.814 | 0.38 | 0.70 | -0.466 | 0.775 | -0.60 | 0.54 |
| Regular Wage-Employed | 0.236 | 0.830 | 0.28 | 0.77 | -1.050 | 0.791 | -1.33 | 0.18 |
| SC Category | -0.171 | 0.421 | -0.41 | 0.68 | 0.085 | 0.328 | 0.26 | 0.79 |
| ST Category | -1.029 | 0.465 | -2.21 | 0.02** | 0.143 | 0.375 | 0.38 | 0.70 |
| General Category | -0.274 | 0.454 | -0.60 | 0.54 | 0.285 | 0.337 | 0.85 | 0.39 |
| Religion | 0.814 | 0.451 | 1.80 | 0.07*** | -0.110 | 0.394 | -0.28 | 0.78 |
| Marital Status | -0.095 | 0.326 | -0.29 | 0.77 | -0.053 | 0.294 | -0.18 | 0.85 |
| Literacy | -0.381 | 0.297 | -1.28 | 0.20 | 0.701 | 0.254 | 2.76 | 0.00* |
| Technical Education | -0.774 | 0.685 | -1.13 | 0.25 | 0.108 | 0.609 | 0.18 | 0.85 |
| Vocational Training | 0.018 | 0.297 | 0.06 | 0.95 | 0.548 | 0.241 | 2.27 | 0.02** |
| Job Contract | -0.286 | 0.615 | -0.47 | 0.64 | -0.158 | 0.597 | -0.26 | 0.79 |
| Social Security Benefits | 0.517 | 0.617 | 0.84 | 0.40 | 1.105 | 0.522 | 2.12 | 0.03** |
| Expenditure on Medical | 0.316 | 0.372 | 0.85 | 0.39 | 0.105 | 0.329 | 0.32 | 0.75 |
| Expenditure on Education | 0.429 | 0.265 | 1.62 | 0.10*** | -0.040 | 0.226 | -0.18 | 0.86 |
| Expenditure on PTI | -0.175 | 0.314 | -0.56 | 0.57 | 0.034 | 0.264 | 0.13 | 0.89 |
| Household Head's Age | -0.004 | 0.054 | -0.08 | 0.93 | 0.024 | 0.051 | 0.48 | 0.63 |
| Age Square | 0.000 | 0.001 | -0.54 | 0.59 | 0.000 | 0.001 | -0.73 | 0.46 |
| Construction | 1.181 | 0.496 | 2.38 | 0.01* | 0.946 | 0.383 | 2.47 | 0.01* |
| Manufacturing | 0.892 | 0.403 | 2.22 | 0.02** | 0.908 | 0.341 | 2.66 | 0.00* |
| Transportation | 0.491 | 0.408 | 1.20 | 0.22 | 0.661 | 0.347 | 1.90 | 0.05** |
| HouseholdSector | -0.463 | 0.369 | -1.25 | 0.21 | -0.156 | 0.400 | -0.39 | 0.69 |
| _cons | -1.618 | 1.528 | -1.06 | 0.29 | -2.968 | 1.433 | -2.07 | 0.03** |
| LR $chi^2(25)$ | 125.830 | | | | 116.610 | | | |
| Prob> $chi^2$ | 0.000 | | | | 0.000 | | | |
| Pseudo $R^2$ | 0.231 | | | | 0.181 | | | |
| Log Likelihood | -209.305 | | | | -264.128 | | | |
| Number of Observations | 470 | | | | 470 | | | |

Note: *Significant at 1% level of significance; **Significant at 5% level of significance; ***Significant at 10% level of significance.
Source: Authors' estimation from the Field Survey Data

However, in our analysis, we have considered a host of explanatory variables, namely, migration, gender, caste, living in the category of land, marital status, literacy,

[3] It is to be noted that in our data, there are no cases where the threshold level of income is equal to the household consumption level.

social security benefits, job contracts, expenditure on health and education, expenditure on Pan-Tabacoo-Bidi (tobacco and intoxicants), types of sectors (construction, manufacturing, transportation, households, etc.) and types of employment (self-employed, casual labourer, regular wage employed, contract and unpaid labourer). The dummy variables are used for the qualitative variables.

In this paper, the threshold level of income depends on various socio-economic factors. In this regard, the logistic regression analysis explains that the Pseudo R-squares are 0.23 and 0.18 in Model 4.1 and Model 4.2 respectively, which shows that there is around a 20 percent chance of the respondents to get higher income than the threshold level of income in the informal sector, as explained by the independent variables[4]. However, the LR statistic is significant. The explanatory variables, namely, migration, living in the category of land, gender, STs, religion, expenditure on education, construction and manufacturing sectors are turning out to be significant when we use Tendulkar's threshold level for income (Model 4.1); whereas, in Model 4.2, the significant variables are migration, gender, vocational training, social security benefits, construction and manufacturing.

It is interesting to note that being literate has no effect on the threshold level of income of the respondents in the informal sector based on Model 4.1. But the literacy level, vocational training and the social security benefits play a significant role when the benchmark of Rangarajan panel is used (Model 4.2).This may be explained by the fact that the income benchmark is high in Model 4.2 as compared to Model 4.1, and hence, perhaps education, training, social security benefits, etc. may be significant when a higher income benchmark is used. Most of the explanatory variables in the model are insignificant. Nevertheless, in both the models, the LR statistic shows that, together, all the regressors have a significant impact on the probability of increasing the threshold level of income of the informal sector workers.

With reference to the category of migration status, the chances of earnings for migrant over non-migrant informal workers are higher, by around 50 percent in Model 4.1, whereas it is around 18 percent lower in Model 4.2. It means, at a higher threshold level of income, migrant earnings are more than non-migrant informal workers. It is to be noted that migrants are working either as self-employed or as casual labourers, whereas non-migrants are working in the household sector as regular wage employees which provides them a very minimum remuneration.

Similarly, with the reference category of gender, the income level of females is higher (by 36 percent in Model 4.1 and 35 percent in Model 4.2) than the male informal workers. This may be explained by the fact that, unlike males, females are having job throughout the period of employment as most of the female informal workers are engaged in permanent household sector jobs. However, the separate logistic regression models are estimated for male and female informal workers, and are presented respectively in Table 5 and Table 6.

Pseudo R-squares in both models are very low. In Model 5.1, the independent variables, namely, migration status of male workers, living in the category of land, ST category people, construction, manufacturing and transportation sectors, turn out to be significant. The variables, such as, migration status of male workers, living in the category of land, literacy rate, vocational training, social security benefits and the sectors like construction, manufacturing and transportation sectors are significant in Model 5.2. It could be noted that, with the benchmark level changing in the estimation

[4] However, Pseudo R-square statistic is not taken seriously in the logit model for understanding the overall goodness of fit of the model.

of income, the significance levels of the variables are also changing and some of the significant variables are turning out to be insignificant and vice versa. It is interesting to note that being literate has no effect on the threshold level of income of the respondents in Model 5.1. However, the literacy rate, vocational training and social security benefits play a significant role in Model 5.2, where the high benchmark income is considered.

Table 5: Determinants of Income Variation among Migrant and Non-Migrant Male Informal Workers

| Dependent Variable: Monthly threshold level of income of male workers (Positive=1 and Negative=0) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Independent Variables | Model 5.1 Threshold level of income, Rs. 33/day (Tendulkar Panel) | | | | Model 5.2 Threshold level of income, Rs. 47/day (Rangarajan Panel) | | | |
| | Coeff. | Std. Err. | Z | P>z | Coeff. | Std. Err. | z | P>z |
| Migration Status | 1.652 | 0.360 | 4.58 | 0.00* | 1.380 | 0.291 | 4.75 | 0.00* |
| Living in Category of Land | 0.855 | 0.375 | 2.28 | 0.02** | 0.984 | 0.318 | 3.10 | 0.00* |
| Self-Employed | 1.044 | 0.889 | 1.17 | 0.240 | -0.235 | 0.810 | -0.29 | 0.77 |
| Casual Labourer | 0.267 | 0.862 | 0.31 | 0.75 | -0.541 | 0.799 | -0.68 | 0.49 |
| Regular Wage-Employed | 0.374 | 0.894 | 0.42 | 0.67 | -0.990 | 0.822 | -1.20 | 0.22 |
| SC Category People | -0.001 | 0.497 | 0.00 | 0.99 | 0.261 | 0.358 | 0.73 | 0.46 |
| ST Category People | -0.903 | 0.530 | -1.70 | 0.08*** | 0.232 | 0.416 | 0.56 | 0.57 |
| General Category People | -0.544 | 0.519 | -1.05 | 0.29 | 0.103 | 0.362 | 0.28 | 0.77 |
| Religion | 0.450 | 0.524 | 0.86 | 0.39 | -0.241 | 0.431 | -0.56 | 0.57 |
| Marital Status | -0.065 | 0.441 | -0.15 | 0.88 | 0.174 | 0.360 | 0.48 | 0.63 |
| Literacy | -0.321 | 0.367 | -0.87 | 0.38 | 0.574 | 0.290 | 1.98 | 0.04** |
| Technical Education | -0.633 | 0.877 | -0.72 | 0.47 | 0.254 | 0.723 | 0.35 | 0.72 |
| Vocational Training | -0.015 | 0.326 | -0.05 | 0.96 | 0.553 | 0.254 | 2.17 | 0.03** |
| Job Contract | -0.370 | 0.697 | -0.53 | 0.59 | -0.420 | 0.625 | -0.67 | 0.50 |
| Social Security Benefits | 0.621 | 0.733 | 0.85 | 0.39 | 1.186 | 0.553 | 2.15 | 0.03** |
| Expenditure on Medical | 0.311 | 0.461 | 0.68 | 0.49 | -0.066 | 0.373 | -0.18 | 0.85 |
| Expenditure on Education | 0.153 | 0.317 | 0.48 | 0.62 | -0.098 | 0.249 | -0.39 | 0.69 |
| Expenditure on PTI | -0.169 | 0.390 | -0.43 | 0.66 | 0.152 | 0.299 | 0.51 | 0.61 |
| Household Head's Age | 0.027 | 0.067 | 0.40 | 0.69 | 0.018 | 0.058 | 0.32 | 0.75 |
| Age Square | -0.001 | 0.001 | -0.90 | 0.36 | 0.000 | 0.001 | -0.55 | 0.58 |
| Construction | 0.966 | 0.527 | 1.83 | 0.06*** | 1.060 | 0.415 | 2.55 | 0.01* |
| Manufacturing | 1.205 | 0.468 | 2.58 | 0.01* | 0.994 | 0.369 | 2.69 | 0.00* |
| Transportation | 0.760 | 0.446 | 1.70 | 0.08*** | 0.797 | 0.367 | 2.17 | 0.03** |
| Household Sector | 0.121 | 0.507 | 0.24 | 0.81 | 0.168 | 0.491 | 0.34 | 0.73 |
| _cons | -0.881 | 1.846 | -0.48 | 0.63 | -2.517 | 1.555 | -1.62 | 0.10*** |
| LR $chi^2(25)$ | 63.260 | | | | 74.45 | | | |
| Prob> $chi^2$ | 0.000 | | | | 0.00 | | | |
| Pseudo $R^2$ | 0.172 | | | | 0.147 | | | |
| Log Likelihood | -152.619 | | | | -216.445 | | | |
| Number of Observations | 366 | | | | 366 | | | |

Note: *Significant at 1% level of significance; **Significant at 5% level of significance; ***Significant at 10% level of significance.

Source: Authors' estimation from the Field Survey Data

Table 6: Determinants of Income Variation among Migrant & Non-Migrant Female Informal Workers

| Dependent Variable: Monthly threshold level of income of female workers (Positive =1 and Negative =0) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Independent Variables | Model 6.1 Threshold level of income, Rs. 33/day (Tendulkar Panel) | | | | Model 6.2 Threshold level of income, Rs. 47/day (Rangarajan Panel) | | | |
| | Coeff. | Std. Err. | Z | P>z | Coeff. | Std. Err. | z | P>z |
| Migration Status | 1.791 | 0.72 | 2.49 | 0.01* | 3.025 | 1.14 | 2.65 | 0.00* |
| Living in Category of Land | 0.905 | 0.69 | 1.29 | 0.19 | 0.968 | 0.92 | 1.04 | 0.29 |
| Self-Employed | 14.007 | 3728.7 | 0.00 | 0.99 | 9.820 | 1325.8 | 0.01 | 0.99 |
| Casual Labourer | 14.317 | 3728.7 | 0.00 | 0.99 | 11.812 | 1325.8 | 0.01 | 0.99 |
| Regular Wage-Employed | 13.576 | 3728.7 | 0.00 | 0.99 | 8.783 | 1325.8 | 0.01 | 0.99 |
| SC Category People | -1.199 | 1.10 | -1.08 | 0.27 | -1.705 | 1.28 | -1.33 | 0.18 |
| ST Category People | -3.612 | 1.64 | -2.20 | 0.02** | -1.045 | 1.17 | -0.89 | 0.37 |
| General Category People | 0.336 | 1.24 | 0.27 | 0.78 | 1.461 | 1.56 | 0.93 | 0.35 |
| Religion | 2.873 | 1.14 | 2.50 | 0.01* | 1.434 | 1.35 | 1.06 | 0.29 |
| Marital Status | -0.167 | 0.64 | -0.26 | 0.79 | -1.139 | 0.86 | -1.32 | 0.18 |
| Literacy | -0.938 | 0.68 | -1.38 | 0.16 | 1.805 | 0.78 | 2.30 | 0.02** |
| Technical Education | -1.855 | 1.50 | -1.23 | 0.21 | -0.943 | 1.79 | -0.53 | 0.59 |
| Vocational Training | -0.670 | 1.07 | -0.62 | 0.53 | -1.058 | 1.34 | -0.79 | 0.43 |
| Job Contract | -0.050 | 1.57 | -0.03 | 0.97 | 4.268 | 1.96 | 2.17 | 0.03* |
| Social Security Benefits | -1.050 | 1.41 | -0.74 | 0.45 | -0.300 | 2.14 | -0.14 | 0.88 |
| Expenditure on Medical | 1.984 | 0.98 | 2.01 | 0.04* | 2.257 | 1.36 | 1.65 | 0.09*** |
| Expenditure on Education | 1.601 | 0.68 | 2.33 | 0.02** | 0.908 | 0.89 | 1.02 | 0.30 |
| Expenditure on PTI | -0.903 | 0.65 | -1.37 | 0.17 | -1.109 | 0.94 | -1.17 | 0.24 |
| Household Head's Age | -0.082 | 0.15 | -0.55 | 0.58 | -0.158 | 0.19 | -0.80 | 0.42 |
| Age Square | 0.001 | 0.002 | 0.31 | 0.75 | 0.002 | 0.002 | 0.66 | 0.50 |
| Construction | 2.448 | 1.82 | 1.34 | 0.18 | -1.090 | 1.90 | -0.57 | 0.56 |
| Manufacturing | 0.312 | 1.31 | 0.24 | 0.81 | 2.543 | 1.89 | 1.34 | 0.18 |
| Household Sector | -1.430 | 0.82 | -1.72 | 0.08*** | -0.576 | 1.12 | -0.51 | 0.60 |
| _cons | -15.595 | 3728.7 | 0.00 | 0.99 | -13.541 | 1325.8 | -0.01 | 0.99 |
| LR $chi^2(25)$ | 50.970 | | | | 49.580 | | | |
| Prob> $chi^2$ | 0.001 | | | | 0.001 | | | |
| Pseudo $R^2$ | 0.354 | | | | 0.424 | | | |
| Log Likelihood | -46.582 | | | | -33.695 | | | |
| Number of Observations | 104 | | | | 104 | | | |

Note: *Significant at 1% level of significance; **Significant at 5% level of significance; ***Significant at 10% level of significance.
Source: Authors' estimation from the Field Survey Data

The result shows that Pseudo R-squares are 0.35 and 0.42 in Model 6.1 and Model 6.2 respectively. The independent variables, namely, migrated female respondents, STs, Hindu religion, expenditure on medical, education and household sector turned out to be significant in Model 6.1. However, in Model 6.2, the explanatory variables like migration status, literacy rate, job contract and expenditure on medical care are significant. We could observe that the significant variables in both models are not the same. It is also interesting to note that being literate has no effect on the

threshold level of income of the respondents in Model 6.1, but literacy and job contracts seem to play a significant role in Model 6.2 for increasing the income of the informal female workers. In this case, the LR statistic also shows that, together, all the regressors have a significant impact on the probability of increasing the threshold level of income of the informal sector workers.

## 5. Conclusion and Policy Implications

The present study focuses on rural-urban internal migration. The case study is limited only to migrant and non-migrant informal workers living in the slums of Cuttack City, Odisha. The present study reveals that income differential exists with reference to both migration status and gender among the workers in the informal sector. The other variables, like living in the category of land, social groups, type of employment and general education level, have emerged as the main reasons for income differentials among migrant and non-migrant workers. Interestingly, it is found that the average income of migrants is higher than that of non-migrants. This could be explained by the fact that migrants are generally found to be working in relatively risky jobs with higher wages and salaries, whereas non-migrants, particularly women are engaged in non-risky, low-paid job.

The study finds, in line with the important studies in India by both Tendulkar andRangarajan panels (based on threshold level of income), that the status of migration, gender, and working in construction and manufacturing sectors are common determinants of income variation among migrant and non-migrant informal workers. In addition, the study finds that the variables like living in the category of land, caste (STs) in Model 4.1, 5.1 and 6.1, where a low benchmark for the threshold level of income (suggested by the Tendulkar Committee), and the variables like, vocational training and social security benefits in Model 4.2, 5.2, and 6.2, where a relatively high benchmark for the threshold level of income (suggested by the Rangarajan Committee), are found to be important determinants in influencing the income of workers in the informal sector .

The study also finds that a difference in income exists between male and female workers. The important determinants for the variations in income between males and females are found to be the nature of job, caste and religion, living in the category of land, literacy rate, vocational training, et cetera. It is a standard finding that male workers are paid higher than female workers in critical sectors like the construction sector, whereas the income level of female is higher than the male due to the availability of regular jobs like domestic help for females in the household sector. However, the most important observation of our study is that when the education level of the workers in the informal sector is so poor, they are unable to influence the income and vice-versa, irrespective of gender and migration status.

Nevertheless, the living conditions and standard of living of the informal workers living in slums are miserably poor irrespective of migration status, though the non-migrants enjoy relatively better living conditions in terms of sanitary facilities, local unity, job security, and other social security measures in comparison to migrants. This may be due to the fact that most of them have voting rights, and hence influence in the political system.

From our ground level interaction and data collection, we arrive at a very general conclusion that various factors like social security, livelihood strategy, living standards, job security, family responsibility, educational status, reasons for migration, living conditions, etc. should be taken into consideration for the policy implications for these vulnerable sections of the population in the urban areas. The study recommends

the provisioning and improvement in basic facilities (like health, education and other social security) for both migrant and non-migrant informal workers. The income levels of informal workers can be enhanced with skill developments and vocational training. The social, political and economic empowerment is necessary for augmenting the overall welfare of the migrant and non-migrant informal workers. However, in-depth analysis is needed to generalize the results, and the scope of the study can be widened to discuss the different specific issues of migrant informal sector workers under an unexceptional scenario like Covid-19, for further research.

## Acknowledgement

The research paper is part of a PhD Thesis of Suvendu Barik, submitted to the Department of Economics, Jamia Millia Islamia (Central University), New Delhi. The research work is carried out under the supervision of Dr. Mirza Allim Baig, Associated Professor, Department of Economics, Jamia Millia Islamia (Central University), New Delhi. The authors duly acknowledge the useful suggestions and constructive comments provided in the MAIMS 6th ICON 'Drivers of Global Economic Recovery', 23 April 2021.

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