

FEMALE LABOUR WAGE AND THEIR WAGE GAP WITH MALE COUNTERPART IN SOME SELECTED AREAS OF BANGLADESH

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ABSTRACT

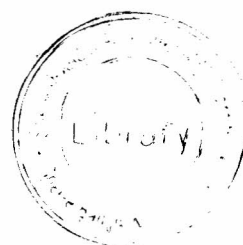
This study addressed the nature and extent of female wage labour and the wage gap with their male counterpart in the selected areas of Sirajgonj and Dhaka Districts of Bangladesh. There were four categories of labour. Farm survey method was used to collect primary data from the field labour and the rice mill worker and labour of construction work at few villages under Royganj, Tarash, and Salanga Upazilas of Sirajgonj and Dhaka district for the study. ANOVA and ANCOVA Models were used for analyzing the data set. It is noted that, the female labour's working hours/day, working days/week are much less than male labour that is why wage of female labours is much lower than the male labours in selected areas of Bangladesh. It is also noted that the wage rate is much lower in the case of female workers. The major findings of the study indicated the way of increasing income of female labour depends on the reduction of the wage gap (1239Tk/month). Therefore, the study firmly concluded with the recommendation that the wage (tk/hr) of female worker should increase rationally for ensuring the equal treatment of both male and female.

Keywords: female, labour, wage, wage gap, male

INTRODUCTION

Bangladesh is a highly patriarchal society with gender being a key factor in defining social roles, responsibilities and power relationships within the family and workplace. Male workforce participation is significantly higher than female participation, with men participating at 83 percent and women at 59 percent; however, male workforce participation has decreased by 4 percent, while female participation has increased by 4 percent from the year 2000. A 2007 World Bank report stated that the areas in which women's work force participation have increased the most are in the fields of agriculture, education and health and social work. Over three-quarters of women in the labor force work in the agricultural sector. In 1993-94, employed male population was 57.5 percent and it was 10.6 percent for female at the national level. The percentage of employed population for both male and female has decreased to 44.2 percent and 9.7 percent respectively in 1999-2000. Again, the percentage of employed male and female has increased to 68.3 percent and 22.9 percent in 2007 from 67.5 percent and 15.2 percent in 2004 respectively at the national level (World Bank, 2007). Furthermore, it is also observed that the increasing rate in the percentage of employed population has occurred with a higher rate for female than that of male. Women's wages are significantly lower than men's wages for the same job with women being paid as much as 60-75 percent less than what men make. There exists an immense inequality between the male and female in Bangladesh as far as employment status is concerned. However, although there are some progresses in the recent years but it is still low than that of expected. Bangladesh is a third world's developing country with a large number of populations. The ratio of men and women people is quite same. Most of the women people are engaged with their household activities. But day by day women's are also involved with the outsights work. But in their workplace they can't get proper wage as compared to the male labour. There is however overwhelming evidence to suggest that gender bias also plays an important role in the determination of women's wages. Women are discriminated in the labour market and consequently they tend to receive lower returns to their labour, even though they possess equal endowments in terms of human capital as men. Women face a

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variety of barriers in accessing jobs in the formal sector, partly attributed to unhelpful attitudes and preferences of employers. This study seeks to estimate the gender wage gap. In our country a few study examined the gender wage gap. But now a day it is a very important issue in the modern world Economy. So this study also helps us to estimate the wage gap and the main reason of wage discrimination or gap between male and female labour. It also helps to identify the problems and solutions of wage gap in Bangladesh. Most of the people in our country are poor and they live from hand to mouth. If women's are contributed in their family income with their male partner then they lead a happier family life. It also gives effective role in our countries Economy. Beside this, the study also focused to recommend how government initiates to take necessary steps to reduce the wage gap between male and female labour and provides proper honors to the female labour in Bangladesh.

MATERIALS AND METHODS

Selection of the study area: For this study, some preliminary visits were made by the researcher herself to a few villages in rural areas under Royganj, Tarash, and Salanga Upazilas of Sirajgonj district and also in urban areas some selected location of Dhaka city.

Section of the Sample and Sampling Technique: Random sampling was used to find the wage gap between male and female labour. A total of 66 wage labours were selected where 33 labours were male and another 33 labours were female.

Period of Data Collection: Primary data were collected by the researcher herself during January to March, 2014.

Preparation of Interview Schedule: An interview schedule was developed in such a manner so that primary data and information could be collected. Information was gathered on their wage rate, reasons of wage gap, job experience, family status, problem faced by the respondents and their probable suggestions. The questions were arranged in a logical sequence. A draft interview schedule was prepared first according to the objectives of the research and then field-tested by interviewing a few respondents for necessary modifications before starting data collection. As a result of pre-testing, some items irrelevant to local conditions were deleted and some more understandable points were included. Finally, this edited copy was duplicated, processed and printed for making interviews.

Data Collection: Data were collected through direct interviews by making personal visits of the researcher to the workplace of the selected respondents. During data collection, the researcher stayed in the research areas and visited the respondents several times to collect accurate information. Before beginning the interview, each respondent was given a brief idea about the nature and purpose of the survey and they were made convinced that this research was purely an academic one. The questions were asked by the researcher systematically with simple words and were recorded accordingly in interview schedule. By this study, the researcher wanted to find out that condition of female wage labour and the wage gap between male and female labour. So the researcher selected those study areas where male and female labours were worked together.

Data Processing: The data and information collected from field survey, interviews, discussions and communications were scrutinized, classified, edited and coded. The responses of the respondents that were recorded in the interview schedule were transferred into a master sheet for entering the data in the computer. Data entry was then done by researcher herself. Wage of the labour was converted into taka per hour and income taka per month not yearly basis due to short length types of work such as road construction, rice mill, field work. Estimation of monthly income is not done by multiplication of 30 days due to difference in time duration of works (hr./day, day/week) between female and male labours. Different computer software packages like Excel and Eviews programming were used for analyzing the data. The final results of the analyses were summarized and presented in tabular forms with their meaningful interpretations.

Analytical Framework: A combination of descriptive and statistical techniques as demanded by the study was used to achieve the objectives and to get the meaningful results. Various descriptive

statistical measures (i.e., sum, average, percentages, ratios, etc.) were employed to examine the objectives and for testing null hypothesis that there is no sex discrimination ($H_0 : B = 0$).

In regression analysis the dependent variable is frequently influenced not only by variables that can be readily quantified on some well-defined scale (e.g., income, output, prices, costs, height, and temperature), but also by variables that are essentially qualitative in nature (e.g., sex, race, color, religion, nationality, wars, earthquakes, strikes, political upheavals, and changes in government economic policy). For example, holding all other factors constant, female college professors are found to earn less than their male counterparts, and nonwhites are found to earn less than whites. This pattern may result from sex or radical discrimination, but whatever the reason, qualitative variables such as sex and race do influence the dependent variable and clearly should be included among the explanatory variables.

Since such qualitative variables usually indicate the presence or absence of a "quality" or an attribute, such as male or female, black or white, or Catholic or non-Catholic, one method of "quantifying" such attributes is by constructing artificial variables that take on values of 1 or 0, 0 indicating the absence of an attribute and 1 indicating the presence (or possession) of that attribute. For example, 1 may indicate that a person is a male, and 0 may designate a female; or 1 may indicate that a person is a college graduate, and 0 that he is not, and so on. Variables that assume such 0 and 1 values are called dummy variables. It is not absolutely essential that dummy variables take the values of 0 and 1. The pair (0,1) can be transformed into any other pair by a linear function such that $Z = a + bD$ ($b \neq 0$), where a and b are constants and where $D = 1$ or 0 . When $D = 1$, we have $Z = a + b$; and when $D = 0$, we have $Z = a$. Thus, the pair (0, 1) becomes (a, a + b). For example, if $a = 1$ and $b = 2$, the dummy variables will be (1, 3). This expression shows that qualitative variables do not have a natural scale of measurement. For analysis, ANOVA and ANCOVA Models have been used. In regression analysis, the role of qualitative explanatory variables called Dummy variables. In this study, dummy variables used in regression models just as quantitative variables (Gujarati, 1995).

Analysis -of -variance (ANOVA) models:

A regression model may contain explanatory variables that are exclusively dummy or qualitative, in nature. Such models are called Analysis -of -variance (ANOVA) models:

The effect of qualitative variables only on the intercept term.

The following model:

$$Y_i = a + bD_i + u_i \dots\dots\dots (1)$$

Where $Y =$ wage of labour

$D_i = 1$ if male labour

$= 0$ otherwise (i.e. female labour)

Analysis -of -covariance (ANCOVA) models

A regression model contains some explanatory variables that are quantitative and some are qualitative. Regression models containing an admixture of quantitative and qualitative variables are called Analysis -of -covariance (ANCOVA) models.

The effect of qualitative variables on the slope term

1. Regression on one quantitative variable and one qualitative variable with two classes or categories
2. Regression on one quantitative variable and one qualitative variable with more than two classes or categories
3. Regression on one quantitative variable and two qualitative variable differential intercept coefficient

In this study, regression on one quantitative variable and one qualitative variable with two classes or categories has been used. The model is as follows:

$$Y_i = a + bD_i + cX_i + u_i \dots\dots\dots (2)$$

Where $Y_i =$ wage of labour

Xi = years of job experience
 Di = 1 if male labour
 = 0 otherwise (i.e. female labour)

RESULTS AND DISCUSSION

Analysis of Wage Functions and Estimations of Gender Discrimination in Wages

This analysis is done for estimating the present situation of wage gap between female and male labour. Generally, women have less physical strength for hard working. Not only strength, in the family, women have less opportunity to come outside for works because of their family's constraints. That is why, they spent less working hour in a day and even less day in a week. So they do not get wages as much as their male counterpart.

From Table 1 to Table 4 give the estimates of wage discrimination using two different models. The first is estimated wage gap between male and female from ANOVA model. The second is the estimation based on the difference between male and female from ANCOVA model. This estimation is included with job experiences. To find out the wage gap between male and female labour, we estimated which types of work those were short timed seasonal works. So we could not categorize it as annual basis. Here it was categorized in four levels: wage Tk/hr, Tk/ day, Tk. /week and Tk. / month. To estimate the wage status of female and male labour in those work categories in all together -Urban road construction, rural field and rural rice mill, are considered as Overall wage.

Wage gap for sex discrimination “without job experience” and “with job experience”

Estimated wage gap for gender discrimination, wage rate (tk /hr):

In Table 1, results of ANOVA model show the overall estimated labour wage rate of female and male labourers is respectively 22.45 Tk/hr and 29.45 Tk/hr; and wage rate gap is 6.76 Tk/hr which is precisely the same as the observed ones. The results indicate that the mean wage rates of the two categories are different; actually the average wage rate of female labourer is lower than that her male counterparts. If all other variables are held constant, then there is sex discrimination in the wage rates of two sexes. The estimated value of coefficient of labour wage gap is statistically significant at 10% level in case of ANOVA model. Again in Table 1, results of ANCOVA model postulates that the male and female labourers' wage functions in relation to the years of job experience. The estimated mean labour wage rate of female labourer is 23.69 tk/hr where 32.21tk/hr for male labourer. The different intercepts mean the labour wage rate is different from that of the female labourer's labour wage rate by 8.52 tk/hr (wage gap). The estimated value of coefficient of labour wage gap is statistically significant at 1 % level in case of ANCOVA model.

Table 1. Estimated Wage gap for Gender Discrimination, wage rate (tk/hr)

Equations of Wage functions	Male wage	Female wage	Wage Gap Values
(ANOVA) model: only Sex discrimination (without job experience) $Y_o = 22.45^{***} + 6.76 * D_i$ (9.50) (2.02)	29.21	22.45	6.76
Equations of Wage functions (ANCOVA) Sex discrimination with job experience $Y_o = 23.69^{***} + 8.52^{***} D_i + 1.53 JE$ (8.32) (2.11) (1.78)	32.21	23.69	8.52

Source: Author's estimation, 2014, Note: t-test values are in parentheses, *** significant at 1 percent level, ** significant at 5, percent level, * significant at 10 percent level

Estimated wage gap for Gender Discrimination, wage (tk/day)

In Table 2, results of ANOVA model show the estimated labour wage of female and male labourers is respectively 210.85 tk/day and 253.03 tk/day; and wage gap is 42.18 tk/day which are precisely the

same as the observed ones. The results indicate that the mean wage of the two categories are different; actually the average wage of female labourer is lower than that her male counterparts. If all other variables are held constant, then there is sex discrimination in the wage rates of two sexes. The estimated value of coefficient of labour wage gap is statistically significant at 10% level in case of ANCOVA model. Again in Table 2, results of ANCOVA model postulates that the male and female labourers' wage functions in relation to the years of job experience. The estimated mean labour wage of female labourer is 304.44 tk/day where 359.67 tk/day for male labourer. The different intercepts mean the labour wage is different from that of the female labourer's wage by 55.23 tk/day (wage gap). The estimated value of coefficient of labour wage gap is statistically significant at 10% level in case of ANCOVA model.

Table 2. Estimated Wage gap for Gender Discrimination, wage (tk/day)

Equations of Wage functions (ANOVA)	Male wage	Female wage	Wage Gap Values
$Y_o = 210.85^{***} + 42.18 D_i$ (9.54) (1.35)	253.03	210.85	42.18
$Y_o = 304.44^{***} + 55.23 D_i + 1.73 J_E$ (7.73) (1.93) (0.25)	359.67	304.44	55.23

Source: Author's estimation, 2014, Note: t-test values are in parentheses, *** significant at 1 percent level, ** significant at 5 percent level, * significant at 10 percent level

Estimated wage gap for Gender Discrimination, wage (tk/week)

In Table 3 results of ANOVA model show the estimated labour wage of female and male labourers is respectively 1096.79 tk/week and 1463.94 tk/week; and wage gap is 367.15 tk/week which is precisely the same as the observed ones. The results indicate that the mean wage of the two categories are different; actually the average wage of female labour is lower than that her male counterparts. If all other variables are held constant, then there is sex discrimination in the wage rates of two sexes. The estimated value of coefficient of labour wage gap is statistically significant at 10% level in case of ANOVA model. Again in Table 3, results of ANCOVA model postulates that the male and female labourers' wage functions in relation to the years of job experience. The estimated mean labour wage of female labourer is 1116.55 tk/week where 1511.94 tk/week for male labourer. The different intercepts mean the labour wage is different from that of the female labourer's labour wage by 395.39 tk/week (wage gap). The estimated value of coefficient of labour wage gap is statistically significant at 10 % level in case of ANCOVA model.

Table 3. Estimated Wage Gap for Gender Discrimination, Wage (tk/week)

Equations of Wage functions ANOVA	Male wage	Female wage	Wage Gap Values
$Y_o = 1096.79^{***} + 367.15 D_i$ (8.18) (2.17)	1463.94	1096.79	367.15
$Y_o = 1116.55^{***} + 395.39 D_i + 2.45 J_E$ (7.73) (1.93) (0.25)	1511.94	1116.55	395.39

Wage gap for Gender Discrimination, wage (tk/monthly)

In Table 4, results of ANOVA model show the estimated labour wage of female and male labourers is respectively 4272.12 tk/month and 5625.76 tk/month; and wage gap is 1353.64 tk/month which are precisely the same as the observed ones. The results indicate that the mean wage of the two categories are different; actually the average wage of female labourer is lower than that her male counterparts. If all other variables are held constant, then there is sex discrimination in the wage rates of two sexes. Again in Table 4, results of ANCOVA model postulates that the male and female labourers' wage functions in relation to the years of job experience. The estimated mean labour wage of female labourer is 4191.82 tk/month where 5430.74 tk/month for male labourer. The different intercepts mean the

labour wage is different from that of the female labourer's labour wage by 1238.92 tk/month (wage gap). The estimated value of coefficient of labour wage gap is statistically significant at 10 % level in case of ANOVA model.

Table 4. Wage gap for Gender Discrimination, wage (tk/month)

Method	Equations of Wage functions	Male wage	Female wage	Wage Gap Values
ANOVA	$Y = 4272.12^{***} + 1353.64^* Di$ (8.68) (1.94)	5625.76	4272.12	1353.64
ANCOVA	$Y = 4191.82^{***} + 1238.92 Di + 9.96 JE$ (7.04) (1.47) (0.24)	5430.74	4191.82	1238.92

Source: Author's estimation, 2014

Note: t-test values are in parentheses, *** significant at 1 percent level, ** significant at 5 percent level,* significant at 10 percent level

CONCLUSION AND POLICY IMPLICATION

The study confirms earlier findings that women are segregated to home-based activities consisting of mainly domestic labour and less economic labour. The persistent gender division of labour in rural Bangladesh has been found to be associated with both economic factors and socio-cultural factors. There is substantial disparity in earnings of men and women in the labour market that may be explained by occupational segregation and outside working opportunity of women from family.

One of the main reasons behind low wage rate of women is the gender division of labour that keeps them segregated to home. From the findings ANOVA model shows that the wage gap is tk. 1353.64 between female and male labour due to sex discrimination. Male labours always get the opportunity of high wage rated hard field works because of their more physical strength than female. So that female labour are engaged in low wage rated work such as different types of works in rice mill.

From the findings ANCOVA model shows that the wage gap is tk.1238.92 between female and male labour due to job experience. Male labour always get the opportunity of high wage rated technical works such as construction of road and building etc. Technical knowledge which is occurred by lack of job experience of women labour are other reasons for low wage rate. On the other hand, female labours are more experienced for different types of works in rice mill though the wage rate is lower than construction works.

Therefore, the study firmly concluded with some policy implications that firstly, per hour wage rate should be increased for female secondly, enhancing working conditions (family support, management of child rearing etc.) for the female workers should be improved. Furthermore, skill levels of female workers also must be increased by providing general education as well as specialized training.

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