

THE IMPACT OF GENDER GAP INTO HOURLY WAGES: A STUDY BASED ON PRIVATE SECTOR COMPANIES IN SRI LANKA

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Abstract: Most of the researchers are examining the wage gap between males and females. Most number of researchers is saying that many firms have this kind of issues regarding the gender gap impact into hourly wages. As a third world country, it is very important to examine the impact of gender gap into hourly wages in Sri Lanka. In this study the researcher has used a sample of three thousand employees of private sector companies in Sri Lanka to evaluate the salary difference of males and females. The data has been collected by using a questioner through online method. Working hours, income and other demographic information were collected for the analysis. Different statistical methods were used to evaluate the data. According to this study, the test p-value is higher than the 0.05 significance value. Mean hourly wage of the men and female around 524 and 550 accordingly. According to the test statistic values, the hourly wage of men and female are different, and according to the mean values of the two groups, women earn more than men.

Keywords: Gender gap, hourly wage, t-test

1. INTRODUCTION

Much investigation on disparities in income between men and women has failed to clarify the complete wage disparity as a result of a calculated divergence. Some researchers consider the unexplained residuals to be evidence of sexism against women employees, and others suggest that variations in labour supply may explain the entire wage gap (Hersch, 1991). A researcher, Sanborn, said discrimination should not be treated with discrimination resulting from job barriers, except in the case of equal pay for equal jobs. Sanborn adjusted the income ratio for delivery, annual hours

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of labour, training, urbanity, race, turnover, absence and working experience, using both male and female adjustment weights (Oaxaca, 1973).

This study focus on the hourly wages of men and women to analyse the wage differences between these two gender categories. Three thousand of employees of private sector companies in Sri Lanka were used as the sample to collect the data. This study enables the community to know that the difference in hourly wage base on gender.

2. LITERATURE REVIEW

While economists are long aware that women are not paying the same average salary as men, their efforts to justify this disparity were less than satisfactory, typically leaving a significant component unanswered which may or may not be attributable to "discrimination." The gender of the worker is one potential explanation for different preferences. On average, men and women say that they vary in their work characteristics. Due above mention factor there is a clear cut division of hourly wage between men and women (Filer, 1985). Important determinants of the wages gap are variables deriving from the role of women in the household. Furthermore, higher women's turnover or departure rates (and thus their shorter projected period with a company) compared to men help to minimize this difference, partially because women and their employers have less desire to invest in training (Royalty, 1996). However, a significant part of their higher turnover reflects the fact that women work predominantly in high-speed enterprises, businesses and sectors. However, it is important to point out that for non-monetary reasons such as household and family welfare, women prefer to quit and leave the workforce, while men tend to abandon for better jobs (Sicherman, 1996). In unionized settings, certain companies' pay disparities appear to be lower, presumably reflecting the impact of a union on the reduction of compensation structures and implementation of anti-discussion legislation. But it's not in some business (Doiron & Riddell, 1994). Therefore, there is a wage difference base on gender.

3. METHODOLOGY

Two sample t-test hypothesis testing method used as the statistical model to interpret the results. gender was used as the grouping variable. Hourly wage was used as the dependent variable. By using STATA 13 version calculate the p-value for the two-sample t-test.

3.1. Hypothesis

H0: there is no any difference between hourly wage between males and females ($\mu_{\text{female}} - \mu_{\text{male}} = 0$)

H1: there is a difference between hourly wage between males and females
(μ female - μ male \neq 0)

3.2. Abbreviations

μ male: -Males, mean value of the hourly wage

μ female: - Female, mean value of the hourly wage

wage: - Hourly wage of employees

wagefe: - Hourly wage of female

wagemale: -Hourly wage of male

4. DESCRIPTIVE STATISTICS

Table 1: Descriptive Statistics of Income and Working Hours

Total Number of Observations : 3000	Working Hours	Income
Mean	50.08867	30973.11
Std.Dev.	15.18865	30173.239.10
Variance	230.695	9.10
Skewness	2.126592	6.232446
Kurtosis	13.59889	64.95044

Above figure describe the descriptive statistics of income and the working hours of the employees. Mean value of the income of all the employees around 30973. Mean value of the working hours of the employees around 50 hours. Skewness and kurtosis value provides an idea about those two variables. Those two values are higher than two. Therefore those two variables are positively skewed.

Table 2: Descriptive statistics of wage and age of employees

	Hourly Wage	Age
Mean	648.5465	39.47033
Std.Dev.	638.2878	13.00542
Variance	407411.3	169.1408
Skewness	5.859336	0.3462794
Kurtosis	57.4167	2.354981

Hourly wage calculated by dividing income by the working hours and the newly created variable called as wage. Above figure describes the mean, variance and skewness of age and the wage. Mean value of the wage around 649 and the mean age of the selected group around 40 years.

5. ANALYSIS

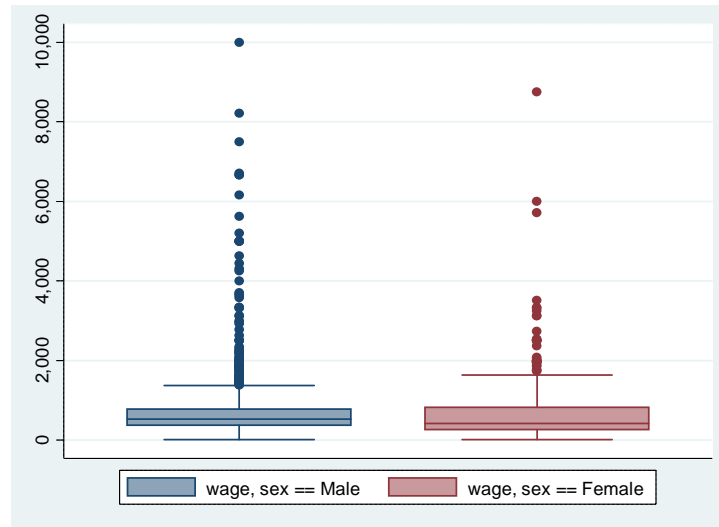


Figure 1: Boxplot with outliers

The wage of male and females having several outliers. before involving in to further analyzing the outliers should be removed. They heavily influence the final results.

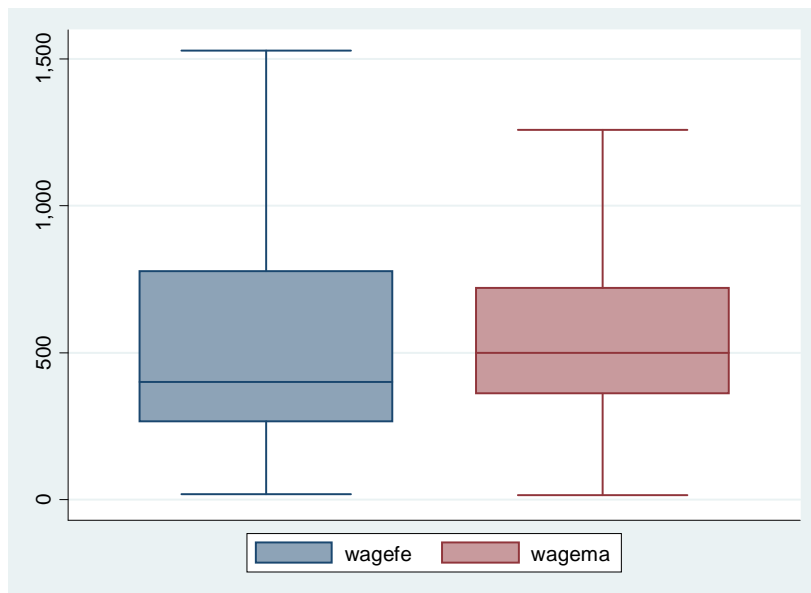


Figure 2: Boxplot without outliers

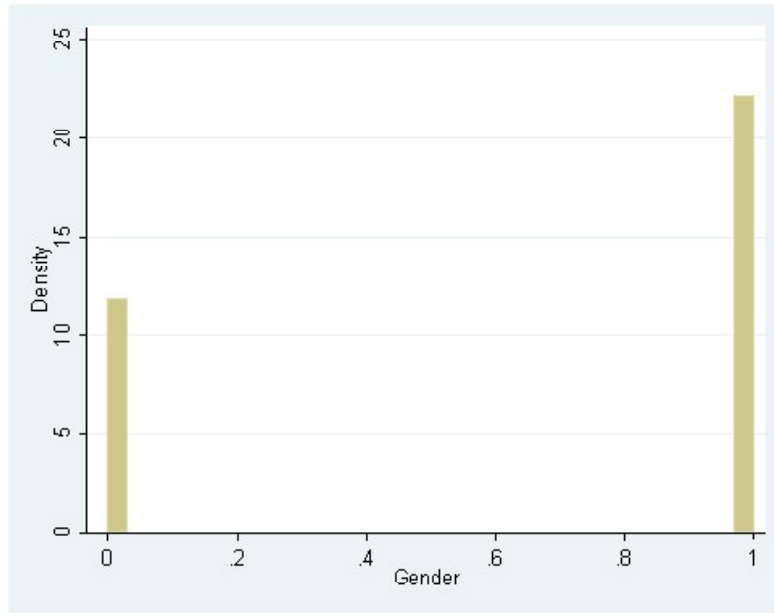


Figure 3: Relative abundance of gender

Above bar chart representing the relative employees as gender. In this sample, more male employees are working than female employees.

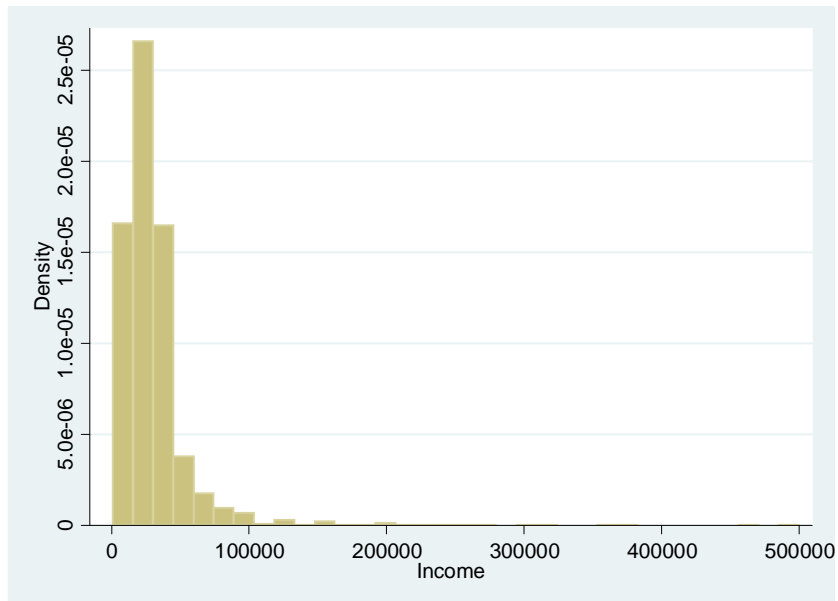


Figure 4: Income of the employees

Above figure describes the frequencies of income of the total employees working in this particular sector. The income of the most number of employees around between 100 to 100000.

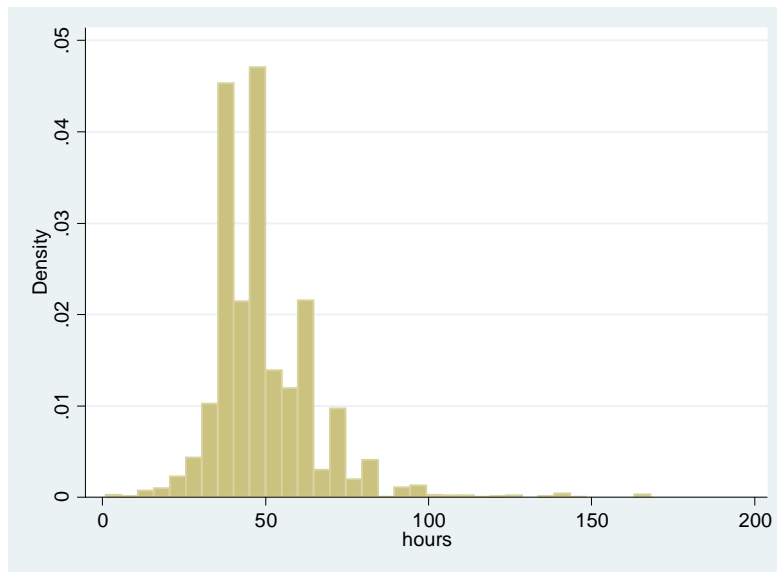


Figure 5: Working hours of the employees

Above figure shows the frequencies of hours that all the employees working at this particular sector. Most numbers of employees are working at least 50 hours per month.

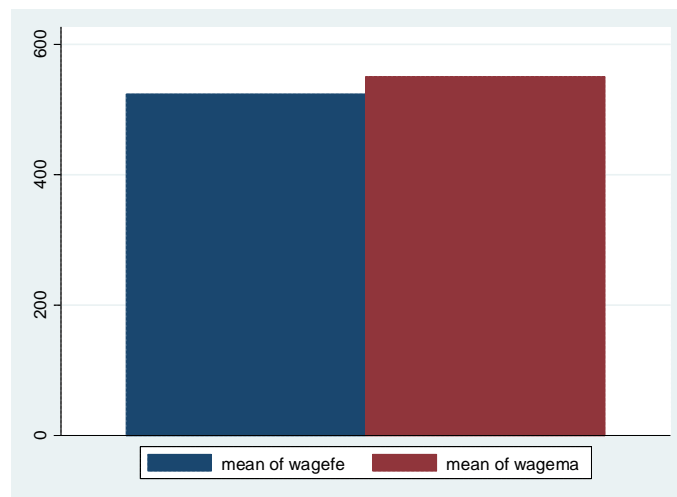


Figure 6: Mean wage of males and females

Females mean wage higher than the mean wage of men.

Table 3: Two-sample t-test results

<i>Variable</i>	<i>Obs</i>	<i>Mean</i>	<i>Std.Err</i>	<i>Std.Dev</i>
Wage (Female)	1003	524.0784	10.818	342.6131
Wage (Male)	1829	550.8499	6.096	260.7004
Combined	2832	541.3684	5.498	292.5679
Diff		-26.77155	11.4862	

t = -2.3308

Above figure describe the results of the two-sample t-test. test p-value less than 0.05. therefore, the alternative hypothesis is accepted

First, the researcher calculated the wage by using income and the working hours. Then divided the wage base on gender. After that, the researcher identified the outliers of the newly created variables. An outlier is a remark which lies in a random population sample an abnormal distance from other values. In a way, it is up to the analyst to determine what is considered abnormal. Outliers are highly influencing to the final results. Therefore, the outliers should be removed before analyze the data set. After removing the outliers, the researcher preformed the two-sample t-test.

HYPOTHESIS

H0:there is no any difference between hourly wage between males and females ($\mu_{\text{female}} - \mu_{\text{male}} = 0$)

H1:there is a difference between hourly wage between males and females ($\mu_{\text{female}} - \mu_{\text{male}} \neq 0$)

The test p-value of the test less than 0.05 value (α -value for the test = 0.05). Therefore, the study rejects the null hypothesis and accepts the alternative hypothesis. There is a difference between hourly wage between males and females. According to the mean values, women earns more than men.

6. CONCLUSION AND RECOMMENDATIONS

According to the study, there is a clear difference in the hourly wage of men and women. Women hourly wage is higher than the hourly wage of men. Therefore, the study conclude that there is no gender discrimination into female workers through hourly wage gap in private sector firms in Sri Lanka.

This study enables to study the wage different of men and women. This kind of research should be done for several firms to get an idea about the overall population.

References

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ANNEX

. summarize hours income wage Age edu, detail

hours					
	Percentiles	Smallest			
1%	20	1			
5%	35	4			
10%	36	4	Obs	3000	
25%	40	4	Sum of Wgt.	3000	
50%	48		Mean	50.08867	
		Largest	Std. Dev.	15.18865	
75%	56	168			
90%	68.5	168	Variance	230.695	
95%	75	168	Skewness	2.126592	
99%	99.5	168	Kurtosis	13.59889	

Income					
	Percentiles	Smallest			
1%	2750	1000			
5%	7000	1000			
10%	10000	1000	Obs	3000	
25%	16000	1000	Sum of Wgt.	3000	
50%	25000		Mean	30973.11	
		Largest	Std. Dev.	30173.23	
75%	36000	360000			
90%	50000	370000	Variance	9.10e+08	
95%	68000	460000	Skewness	6.232446	
99%	154000	500000	Kurtosis	64.95044	

Annex 01 : Descriptive statistics of working hours and income of employees

wage					
	Percentiles	Smallest			
1%	66.37698	15.15152			
5%	159.1523	18.51852			
10%	214.2857	18.51852	Obs	3000	
25%	330	25	Sum of Wgt.	3000	
50%	500		Mean	648.5465	
		Largest	Std. Dev.	638.2878	
75%	791.6667	7500			
90%	1125	8214.286	Variance	407411.3	
95%	1459.325	8750	Skewness	5.859336	
99%	3312.5	10000	Kurtosis	57.4167	

Age					
	Percentiles	Smallest			
1%	18	15			
5%	21	16			
10%	23	16	Obs	3000	
25%	29	16	Sum of Wgt.	3000	
50%	38		Mean	39.47033	
		Largest	Std. Dev.	13.00542	
75%	49	78			
90%	57	79	Variance	169.1408	
95%	61	80	Skewness	.3462794	
99%	69.5	85	Kurtosis	2.354981	

Annex 02: Descriptive statistics of wage and age of employees

