

Analysis of the Average Daily Wages of Informal Sector in Sri Lanka

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Abstract—Sri Lanka is a South Asian developing country with a total population of 21.4 million people. The agricultural and informal sector employees contribute to a significant share of the Sri Lankan economy. The informal sector employs over 4.5 million Sri Lankans, which is more than the number employed by the formal private sector, the government sector, and state-owned enterprises, combined. It is very important that the average wages of the employees are being adjusted with time as the inflation rate of the country is varying. Also there are significant differences in the male and female employees wages especially in the informal sector. This paper gives an analysis of the average wages earned by the informal sector employees of Sri Lanka in agriculture and construction sectors.

Index Terms—Sri Lanka, Informal Sector, Daily Wage, Wage Inequality, Gender pay gap

1. Introduction

Sri Lanka is a Lower Middle-Income country with a GDP per capita of USD 4,073 (2017) [1]. According to the central bank of Sri Lanka, the current economic growth rate is at 3.3%. In Sri Lanka, the contribution of informal sector employment to the total employment is about 60.8 percent. The survey results also reveal that 86.8 percent of agricultural employment comprises with informal sector employment. The term informal sector refers to workers who perform an entirely legal task and are not governed by any labour legislation. Agriculture is a very important sector of the Sri Lankan economy. Even though its contribution to the gross domestic product declined substantially during the past 3 decades, it is a key source of employment for the majority of the Sri Lankan workforce. The major plantation crops are tea, rubber, and coconut which continue to figure prominently in the economy of Sri Lanka. It can be observed that there are significant differences in the wages of the employees in the different agricultural areas and other informal sectors. Also the differences in the wages are affected by different socio-economic factors different regions of the country.

2. Methodology

2.1. Analyzing the National Inflation rate variation and the Variation rate of average daily wages from 2006 - 2012 - Sector wise and Province wise Analysis

From the data set we calculated the variation rate (increase rate or decrease rate) for each year with respect to the previous year. Refer Equation 1.

This analysis was done for the national average daily wage for each sector and province wise average daily wage for each sector. Inflation rate of Sri Lanka for the respective years were obtained from the report Economic and Social Statistics of Sri Lanka 2014, issued by the Central Bank of Sri Lanka [2].

2.2. Analysis of trends in wage inequality between male and female workers in agricultural sector over the period

Average wages for each gender was available separately by each sector and by province, for the period of 2006 to 2012. The simple difference between the two figures for male and female was obtained for each year, by each sector and by each province. The difference for each year in each province-sector combination was plotted to identify the general trend. We aimed to identify whether the wage gap between the genders has been closing, and how individual provinces of the country have performed in this regard.

In the gender gap calculation using average daily wage of female and male was calculated using equation 2. Here we took the males average daily wage as base point and the gap between the male and female average daily wage divided by male average daily wage. The negative gender pay gap rate means females average daily wage is greater than males average daily wage.

3. Data Set

There are many sub sectors in informal sectors. Here, we only considered Tea, Paddy, Rubber, coconut, Carpentry

$$\text{Variation rate} = \frac{(\text{average daily wage of current year} - \text{average daily wage of previous year})}{\text{average daily wage of previous year}} * 100\% \quad (1)$$

$$\text{Gender pay gap rate}(\%) = \frac{(\text{average daily wage of male} - \text{average daily wage of female})}{\text{average daily wage of male}} * 100\% \quad (2)$$

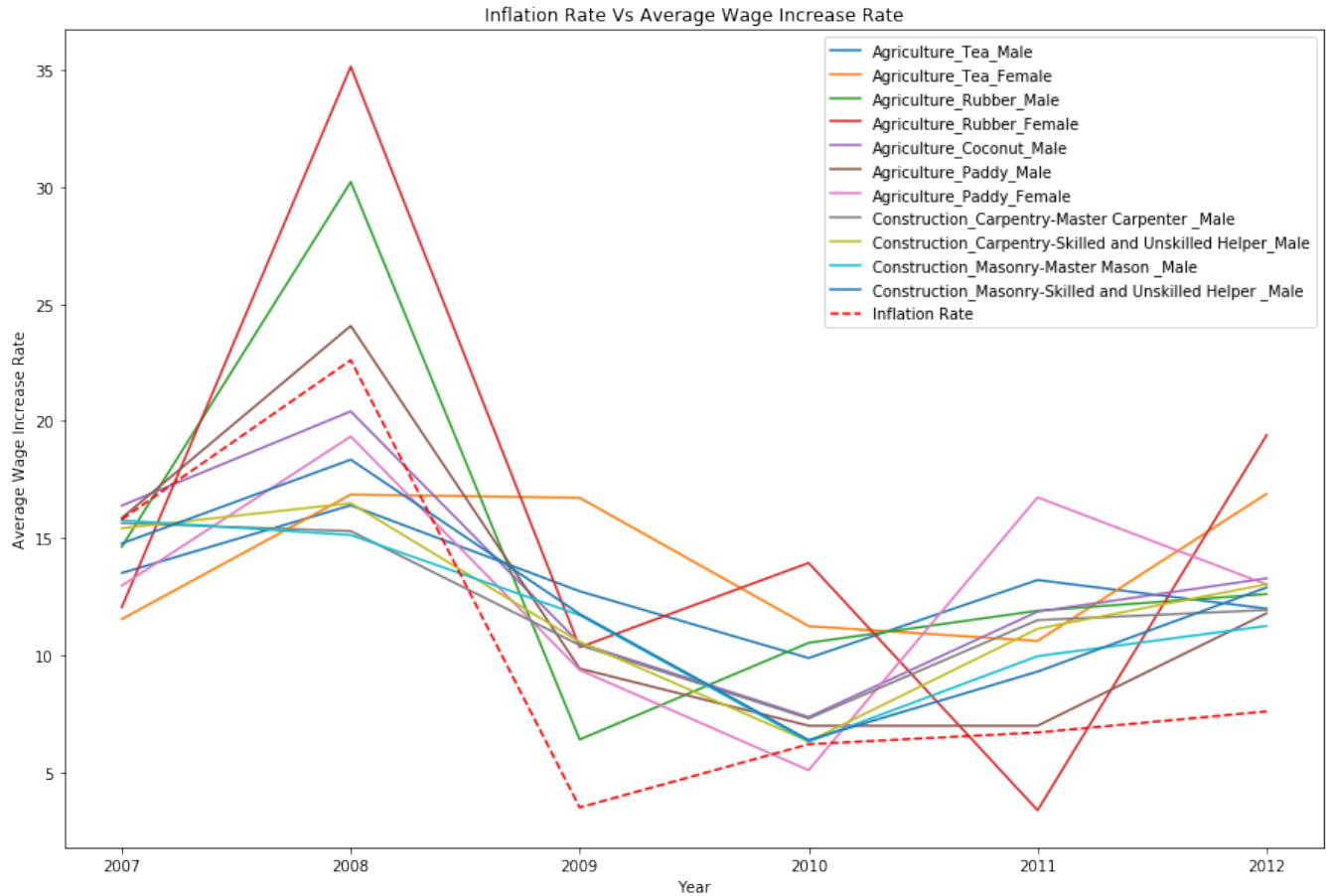


Figure 1. Inflation Rate Vs Average Wage Increase Rate - All Island Sector Wise Comparison

and Masonry. But there are fishermen, farmers excluding the paddy, tailors, business, house maids, cinnamon producers, clove producers and more other informal sectors which are contributing to the economy of Sri Lanka, but due to lack of data, we only considered those selected categories from the informal sectors. The data set was obtained from the Open Data Inventory of Government of Sri Lanka [3].

4. Results and Discussion

4.1. National Inflation rate variation and the Variation rate of average daily wages from 2006 - 2012 - Sector wise

In Figure 1, The red dotted line shows the national inflation rate from 2007 to 2012. The other plots show the

variation rate of each informal sector wage. In 2007 the national inflation rate is 15.8% while it has increased to 22.6% in 2008. The inflation rate has dropped to 3.5% in 2009 due to both world financial crisis and the conclusion of civil war. After 2009 till 2012 the inflation rate has increased slowly.

For 2007 the average wage increase rate is less than inflation rate for all the sectors except the category coconut in the agriculture sector. This has changed by 2012, the increase rate is greater than the inflation rate in all the sectors. Since 2009 majority of the sectors have a higher increase rate than the inflation rate. This may be due to the economic growth after the conclusion of the civil war.

This behaviour is in favour of the employees of the informal sector, but this is the average variation. It does not give any indication about the actual wage of the employee,

if the actual pay is also very low the value of pay remains the same.

4.2. National Inflation rate variation and the Variation rate of average daily wages from 2006 - 2012 - Province wise Analysis

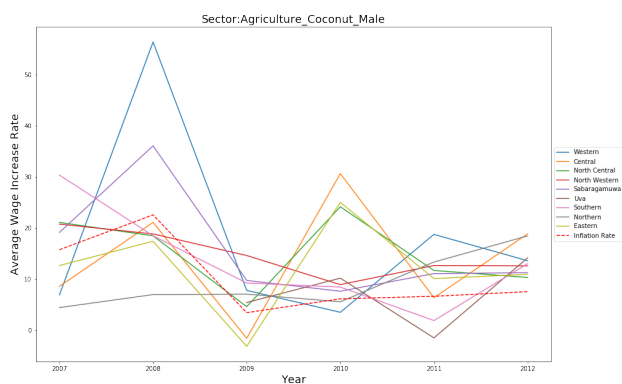


Figure 2. Inflation Rate Vs Average Wage Increase Rate Province wise comparison - Agriculture Coconut Male

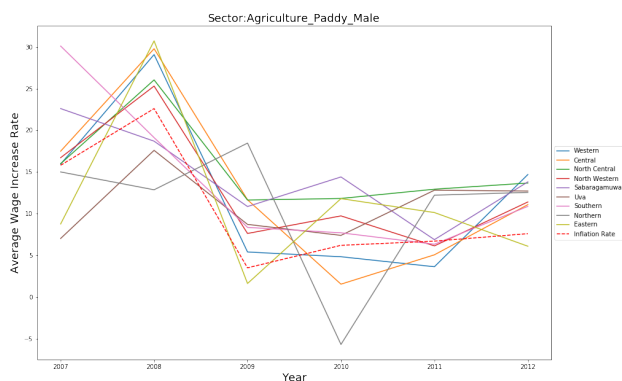


Figure 3. Inflation Rate Vs Average Wage Increase Rate Province wise comparison - Agriculture Paddy Male

In 2007 the only the wage increase rate for the coconut and paddy sectors for the male workers are greater than the inflation rate. But according to the province wise analysis the following provinces do not show this variation. Western, Eastern, Northern and Uva for female workers in the paddy sector and Uva, Eastern and Northern for male workers in the paddy sector where the increase rate is less than the inflation rate. Central, Eastern, Northern and Western provinces show a less increase rate. In most of the sectors Northern province shows a low increase rate.

Once again in 2008 majority of the sectors have a lower wage increase rate. In 2009 the inflation rate is dropped with the end of the civil war and all the sectors have an increase rate higher than the inflation rate in the country. But the wage increase rate for female workers in the paddy sector for Central province has been recorded as -1.64 while

for male workers in Eastern province is 1.62. Southern and Western province female workers in the rubber sector also have recorded a higher decrease rate.

By 2012 all the sectors show a growth rate more than the inflation rate but with a few exceptions according to the province wise analysis. At the same time the average wage increase rates of the workers in the agricultural sector are better than the other sectors.

As depicted in figure 4 and figure 5, the construction sector has a increase in average wage rates despite the low inflation rate in the post war era. A similar pattern can be observed for both all subcategories, masonry and carpentry, in the construction sector. But for the Northern province this pattern can be observed only after 2010. That can be identified as due to the infrastructure development in the country after the civil war.

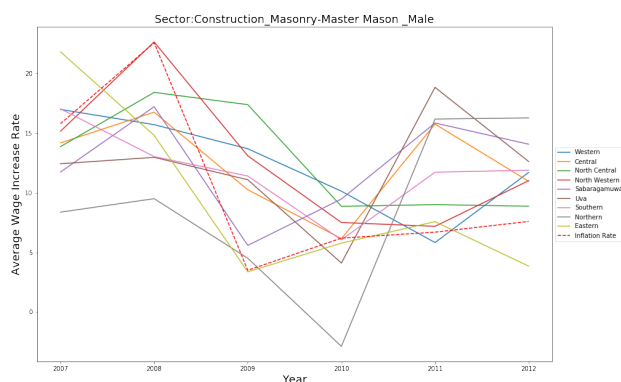


Figure 4. Inflation Rate Vs Average Wage Increase Rate Province wise comparison - Construction Mason Male

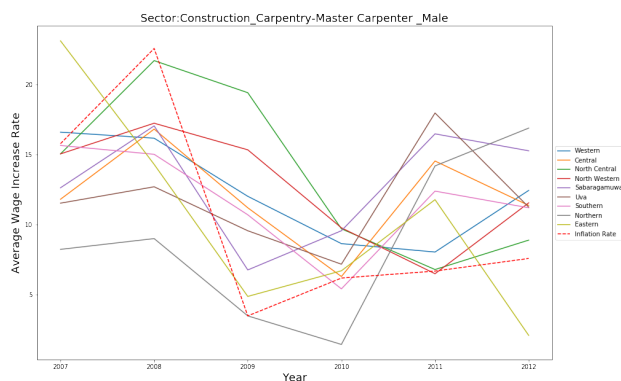


Figure 5. Inflation Rate Vs Average Wage Increase Rate Province wise comparison - Construction Carpenter Male

4.3. Trends in wage inequality between male and female workers in agricultural sector over the period

We analyzed and visualized the inequality of daily average wages between male and female workers. From

the industries in agricultural sector from the data set: Tea, Rubber, Paddy and Coconut, we considered only the former three, because no wage-data was available for females in Coconut industry.

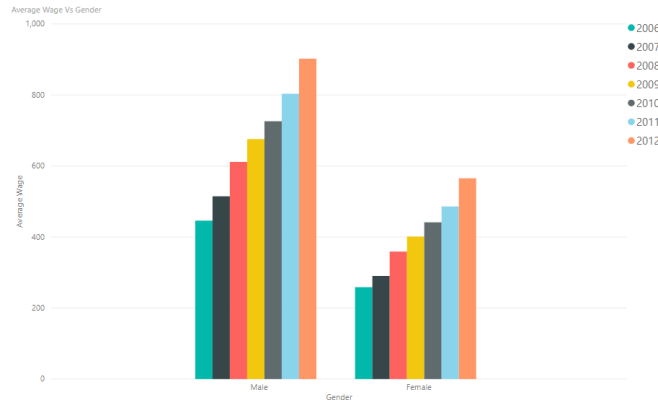


Figure 6. Average daily wages for men and women in the period considered

4.3.1. Analysis of wage trends in Tea sector. In the tea sector, in 2006 there is a huge gap between the male and female wages. But the gap was reduced with year and in 2012 the average daily wage is nearly equal in most of the province. In western province, the inequality reduced from 2007 to 2011. But, in 2012, again starting a huge gap which is greater than the 2006 one. In other provinces the inequality is reduced and both are getting nearly equal average daily wages, all island wise the inequality gap is increasing. Males are paid greater than females.

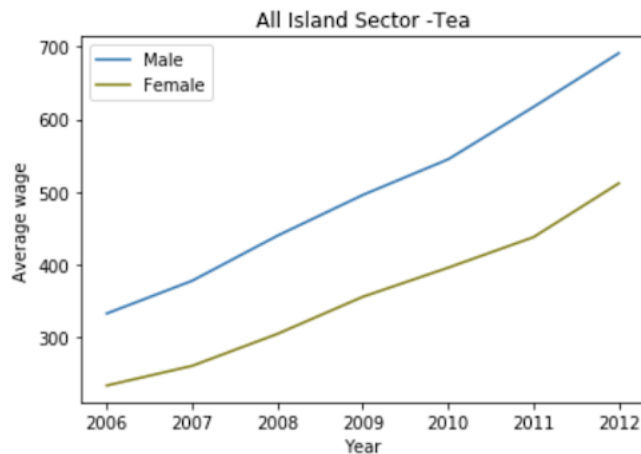


Figure 7. Gender-wise average wage comparison - All island - Tea

The all-island view of fluctuation of daily wages for Tea sector, in figure 7, shows that the *difference* between male and female average wages has increased through the period considered in favour of males, but the the wage gap as a percentage of male wage has reduced. In 2006, the gap was

30% of the average daily wage of males, but by 2012, it was only 26%. This reveals a trend of gradual decrease of gender pay gap, resulting in a drop of nearly 4% across the seven years.



Figure 8. Gender pay gap fluctuation for all provinces - Tea

Figure 8 describes the average daily wage gender gap behaviour with year in Tea sector. in 2006, there is big average daily wage gender gap among all the available provinces. Anyhow there is huge drop in 2008. After that we can see the increase and decrease with year. But the changed gap is small. But in 2012, again its starting to deviate but less than 10%. When we consider the all island wise data, at the starting there is 30% gap. But there is no that much of fluctuation and deviation within this period.

Province-wise breakdown revealed that there is a sure reduction in gender pay gap in the period in all provinces for which data was available (there was no data available for Northern, North Central, North Western and Eastern provinces, understandably because those sit outside of regions where Tea is grown). However, this reduction did not happen at a uniform rate across the provinces.

TABLE 1. STANDINGS OF PROVINCES IN TERMS OF WAGE GAP IN TEA INDUSTRY AT END OF THE PERIOD (2012)

Position	Province	Wage gap
1	Southern	-3.8%
2	Sabaragamuwa	0.6%
3	Uva	2.9%
4	Central	7.9%
5	Western	12.7%

Southern province was the best performer in reducing the gap. In 2006, it had pay a gap of 34.4% in favour of men, but by 2012, it was a 3.8% in favour of women. This constituted the most drastic reduction of gender pay gap among the provinces, by 38.2%, resulting in an overtaking of wages for men by that for women. The second best performer was Central province, where at the start of the period, the difference was 37.3%, but at the end it had reduced to 7.8%, a drop of 29.5%. The third was Uva province, with a start gap of 29.5%, reducing to 2.9% with a drop of 26.6%. Following closely with a drop of 25.3% during the period was Sabaragamuwa province, where at the start it was 25.8% and at the end, 0.5%. The worst performer

of the provinces was Western province, where the reduction was only 5%, where in 2006 the pay gap was 17%.

Table 1 shows the standings of provinces in terms of their wage gap in 2012, at the end of the period considered. Southern province, having a negative wage gap (i.e. a wage gap favouring women), leads while Sabaragamuwa has almost closed the gap having a disparity of only 0.6%. Uva and Central provinces are not very far behind with gaps of less than 8%. Interestingly, Western province has the worst gender pay gap in this year, after having the worst performance of reducing the gap during the period. This is contrary to expectations that this province (housing the main industrial and commercial center of the country, Colobmo), would display a higher adjustment in the wage gap to redress the imbalance.

4.3.2. Analysis of wage trends in Paddy sector. At the starting, there is a huge gap in the daily wages between male and female in paddy sector also. But the gap is decreased with year. But still there is a huge gap in Northern province and southern province. The female average wages is greater than the male salary in Southern Province and Sabaragamuwa province in 2008-2009 period. But the all island wise, there is a huge gaps between male female daily wages. The gap is increasing with the year.

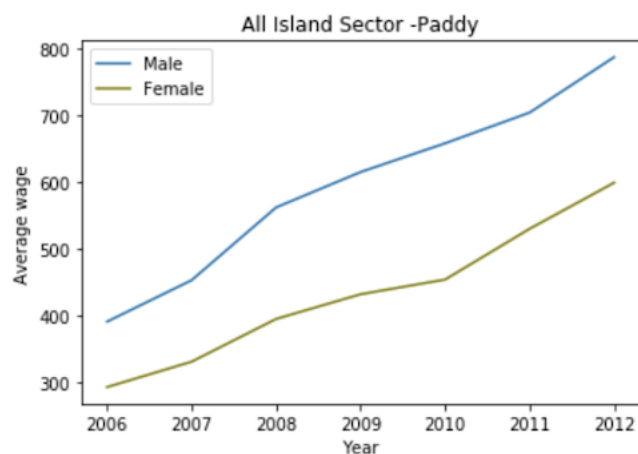


Figure 9. Gender-wise average wage comparison - All island - Paddy

The all-island trend of average daily wage fluctuation for Paddy sector for the considered period is similar to that of Tea sector. In 2006, the difference between wages for the two genders was Rs. 98 in favour of males. The average wage of a female (Rs. 293) was only 25% less than that of a male (Rs. 391). In 2008, this grew to Rs. 167, a 29.7% of average wage for a male. However, by the end of the observed period, this had come down to as low as 23.8%, even though the actual difference increased to Rs. 188 (Male - Rs. 787, Female - Rs. 599). This is a decrease of 1.2% in the wage disparity across 7 years.

Figure 10 shows that, the average daily wage gap rate reduced with the year to all the province in paddy sector. In 2008, there is a huge fall in 2008. but there is no smooth

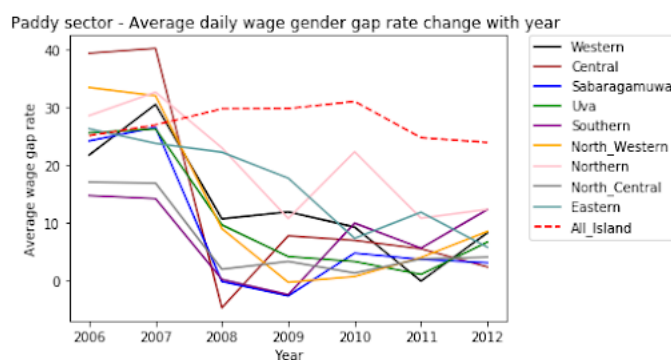


Figure 10. Gender pay gap fluctuation for all provinces - Paddy

increase or decrease with the year. But when we consider the all island wise data, there is no visualizable change in the average wage gap rate. There is a minor deduction only in the island wise.

Data was available for all provinces for the complete period (2006 - 2012). All provinces started out with high wage gaps in 2006 (the minimum being 14.7% - Southern), but all have registered a drop by 2012, most recording double-digit reductions. The best performer has been Central province, which saw a reduction of 37.1%, starting with a wage gap of 39.4% and ending with one as low as 2.3%. North Western province saw a drop of 24.9%, and Sabaragamuwa (with 20.2%) and Eastern (with 20.1%) provinces registered an almost equal reduction. Uva, Northern, Western and North Central provinces recorded drops of 19%, 16.3%, 13.5% and 13% respectively. The worst performer of reducing the gap was Southern province, managing to do so by only 2.4%.

Table 2 shows the standing of provinces in terms of wage gap at the end of the period, after the reductions they had achieved during the period. Central province had the lowest wage gap (2.3%) with Sabaragamuwa, North Central, Eastern, Uva, Western and North Western following with single-digit wage gaps. Provinces still with a double-digit wage gap were Northern and Southern, with 12.3% for both. Western province again does not display any outstanding reduction.

TABLE 2. STANDINGS OF PROVINCES IN TERMS OF WAGE GAP AT END OF THE PERIOD (2012)

Position	Province	Wage gap
1	Central	2.3%
2	Sabaragamuwa	3%
3	North Central	4%
4	Eastern	6.1%
5	Uva	6.6%
6	Western	8.2%
7	North Western	8.5%
8	Northern & Southern	12.3%

4.3.3. Analysis of wage trends in Rubber sector. In rubber sector, there is no that much of deviation in the wage within male and female. In 2016, we can see a little amount of

difference between male and female. But going forward, the inequality of the wages among male and female get reduced. And in some province we can see the nearly equal wages for males and females. But in the central province rubber sector, the female get paid more than males. it seems like the wages given reflect the skill sets.

Unlike for other industries, for Rubber, no data was available on island-wide average wages by gender; data was only available for individual provinces (only for Western, Central, Southern, Sabaragamuwa, North Western and Uva, with the last two having data only from 2009 and 2008 respectively). So the wage gap trends are only studied on the basis of individual provinces.

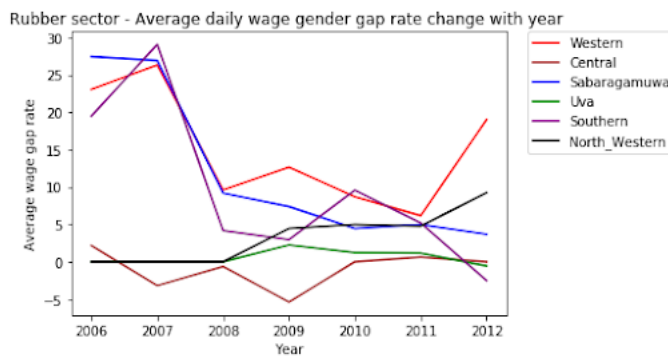


Figure 11. Gender pay gap fluctuation for all provinces - Rubber

Figure 11 shows the average daily wage gender gap in rubber sector. There is a huge average wage gender gap rate in Southern, Western and Sabaragamuwa Province. But in Central province, there is minor gap between male and female daily average wage. But females paid greater than male in 2007 to 2009 period. But after that males and females paid equally.

All provinces except one (North Western) have shown a reduction of gender pay gap; North Western has seen an increase. Two provinces have registered reductions in double-digits. Sabaragamuwa recorded the biggest reduction, by 23.7%, ending the period with a gap of mere 3.7% from a starting gap of 27.4% in 2006. Next is Southern province with a drop of 21.9%. Western, Central and Uva provinces show reductions by 4%, 2.2% and 0.6% respectively. The only exception, North Western province, has seen a worsening of the wage gap by 4.8%, despite starting with a gap as low as 4.4% (in 2009); it ended with 9.2%.

As seen in Table 3, When the situation at the end of the period is considered, three provinces stand out for having a wage gap in favour of women rather than men (women paid more than men), or having no wage gap (equal pay for men and women). Southern and Uva provinces have wage gaps of 2.5% & 0.6% in favour of women while both genders are paid equally in Central province. Not only has Western province achieved a mediocre reduction (4%), it ranks last with a gap as high as close to 20%.

In summary, generally, gender wage gaps in Tea, Paddy and Rubber industries have been reducing at provincial level.

TABLE 3. STANDINGS OF PROVINCES IN TERMS OF WAGE GAP IN RUBBER INDUSTRY AT END OF THE PERIOD (2012)

Position	Province	Wage gap
1	Southern	-2.5%
2	Uva	-0.6%
3	Central	0%
4	Sabaragamuwa	3.7%
5	North Western	9.2%
6	Western	19%

Western province does not outperform (on the contrary, often lags behind) other more rural provinces in the rate of reduction of the gender pay gap.

5. Conclusion

Wage increase rate of the informal sector has increased over the years and by 2012 the increase rate is higher than the inflation rate for all the sectors. This is a favourable behaviour for the employees in the informal sector. At the same time we can see that prevailing socio-economic factors have affected the province wise wage increase rates.

The gender pay gaps in agricultural industries have been narrowing. Despite having considerably high pay gaps in 2006 for all industries, most provinces have reduced this to single digits by 2012, with some provinces ending up with wage gaps favouring women. Also, being the most industrialised area of the country does not act as a catalyst for Western province in increasing the rate of reduction. Whether this positive trend has continued since is an issue worth exploring with additional data covering the subsequent years. Nevertheless, what our results show is that Sri Lanka has been succeeding in redressing gender-based wage disparities at least in agricultural occupations.

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