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# Wage disparities between high and low wage cities with and without the cost of living within Punjab and Sindh: An application of Oaxaca-Blinder using PSLM with HIES

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## ABSTRACT

*Wage disparities research hardly incorporate for the cost of living differences due to data restriction, while the wage disparity issue is the crucial area of economist interest. The study aims to examine the wage disparities between high and low wage cities for Punjab and Sindh province of Pakistan with and without the cost of living, deploying the data of Pakistan Social and Living Standards Measurement Survey (PSLM) with Household Integrated Economic Survey (HIES) for 2005, 2007, 2010, and 2013. Applying the Oaxaca-Blinder estimation method, the findings infer that wage dispersion is high without the cost of living model for both provinces (Punjab and Sindh) as compared to with cost of the living model. Moreover, the results reveal that the wage dispersion is greater in Punjab province than Sindh province. For policymakers, our study suggests that the cost of living is an essential component of the wage dispersion in Pakistan's cities; it should be considered while formulating for wage policy.*

## 1. Introduction

In the labor market, workers have wage differences based on their skills, and hence they have a different marginal product of labor, which is often known as wage disparity.

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It is, therefore, one of the crucial phenomena of the labor market, due to which it has always remained one of the significant areas of research for the labor economist. Labor economists have found consistent wage dispersion within and between countries (Beeson et al., (1989), Fiss et al., (2012)). Wage disparity determines distress social and moral values among individuals, and also the level of living standards among workers. The reasons for wage disparity are quite controversial and complicated. Therefore, economists presented different reasons to explain wage disparity phenomenon, like; amenities, education, gender, (Greenwood et al., 1991, Ashraf and Ashraf, 1993, Partrideg et al., 2010, Partridge et al., 2010, Seyfried and College 2015).

Several studies are available on this topic, which confirmed the existence of wage disparity (Nazli, (2004), Jaffry et al., (2006), Sabir and Aftab, (2007), Blau and Khan 2009, Partrideg et al., (2010), Shah, (2010), Ali and Akthar (2013)). Jaffry et al. (2006) confirmed the existence of wage disparity among workers across different sectors of the same skills. Consequently, the wage disparity exists across provinces, across cities, and also within cities. Education and gender are also a source of wage disparity (Awan et al. 2007, Sabir and Aftab 2007, Ali and Akthar 2013). Subsequently, individuals who have completed their education from private institutions have higher wages as compared to public institutions (Awan et al. 2007, and Asadullah, 2009). Moreover, the believer of human capital theory, emphasize a higher level of education and work experiences, to get a higher level of wages as compared to others (Becker, 1962). While some labor economist gives attention to the law of one price, which contradicts to the real-world application (Mortensen, 2003), subsequently, it influences inequality in living standards. To overcome this inequality, the worker put pressure to adjust the wage accordingly (Pasha & Pasha, 2002).

The procedure of the government is quite different, i.e., packages of wages by employers in working in multiple cities, so leading to improved equalisation of the real wages across places. This decision of the government is entirely independent of the cost of living (CoL); instead, government wage remuneration packages are adapted based on some political factors (DuMond et al. 1999). The procedure of implementing the policy of minimum wage is quite unrealistic because the CoL is varying across the economy. Therefore, it is fair to say that revision of minimum wage policy should be altered accordingly and set on the bases of a standard tool, i.e., CoL. Secondly, it also quite hard to study each individual in an economy on the support of skills, abilities, and efficiency and set his wage accordingly. Therefore, by using the CoL as a standard tool in each region for the wage disparity (Combes et at. 2008). Lastly, if a city has a

particular level of amenities, the CoL will be according to higher (DuMond et al., 1999). So, the decision made on the standard of CoL will help to resolve all these issues.

Literature has been undertaken on wage disparity and CoL in the developed economies (Roback 1988; DuMond et al. 1999; Azzoni et al., 2002; Winters 2009; Kim et al. 2009; Pereira and Galego, 2014; and McHenry and McInerney, 2014, Handbury, J. 2019). CoL (Walden, 1997), nominal wage (Gerking and Weirick, 1983; DuMond et al., 1999; Kim et al., 2009; Adamchik and Hyclak, 2016; Manduca, 2019), housing price (Winters, 2009; Desmond, M., & Wilmers, N. 2019), labor market characteristics (Melo, 2015; Azzoni et al., 2002; Fontes et al., 2010; Garcia et al., 2002; Combes et al., 2008; Adamchik and Hyclak, 2016; Beeson & Eberts, 1989; Lee, N., & Clarke, S. 2019), amenities (Beeson & Eberts, 1989; Azzoni et al. 2002; Kurre, 2003; Yankow, 2006; Atuesta & Paredes, 2012; Lundh 2012), and the marginal product of labor (Mortensen, 2003); subsequently, intercity wage disparity. Empirically, the weighted least square method and Roback-Blanchflower-Oswald model is used by Kim et al., (2009) and Deller (2009). However, the Oaxaca-Blinder Decomposition estimation technique is used by Herrera et al. (2015).

Nazli (2004) estimated the effect of labor market characteristics on an individual's wage. The empirical results imply that wage disparity exists in Pakistan. Subsequently, education-experience has a positive and statistically significant effect on wages. The impact of the experience is weaker than education. Furthermore, these wage disparities were also established across the province, gender, and area. Jaffry et al. (2006) concluded that the intra and inter-industry wage disparity exist, and it also extends to different sectors. Sabir and Aftab (2007) explored the gender-wise wage disparity in Pakistan by using the Labour Force Survey. This study employed pool and Oaxaca-Blinder decomposition methodology, and results highlighted that the change in unobserved characteristics play an essential role in shrinking the gender-wise wage disparity.

The literature on wage disparity has analyzed in detail, but the inter-city wage disparity is not explored for the labour market of Pakistan. It is a well-known hypothesis that there is wage disparity across Pakistan, which is mostly because of the job skills, quality, and other attributes of labor. But this hypothesis is not explored empirically. Furthermore, wage disparity is not analyzed at the micro-level (across cities) in the case of Pakistan. Subsequently, the present study also observes the consequence of the CoL on the wage disparity to analyze the issue of real wage disparity. In literature, the CoL is used as a measure of real wage disparity, but it does not reflect the accurate picture of the CoL since this method has faced numerous theoretical, practical difficulties

(DuMond et al. (1999). Therefore, this study not only contributes towards the real picture of comparison based on the CoL but also examing the wage disparity across the cities of Pakistan.

This study has two primary objectives, which will be modified after estimating the wage disparities between high wage city (HWC) and low wage city (LWC) with and without the CoL for the Province of Punjab and Sindh. The first objective of the study is to explore the difference between HWC and LWC within the Province, i.e., Punjab and Sindh. Consequently, the second objective of the study is to compare the difference between HWC and LWC across the Provinces. The results based on the goal mentioned above will give a clue to minimize the disparity across cities and provinces, respectively. Oaxaca-Blinder (1973) estimation technique is used to examine wage disparity between high wage city (HWC) and low wage city (LWC) with and without the CoL within Punjab and Sindh. With and without the CoL comparison of average wage disparity between HWC and LWC encourage to explain the patterns of inter-city wage disparity. Total wage disparity is a combination of explained and unexplained components in HWC and LWC equation, respectively. Therefore, inter-city wage disparity is decomposed by with and without the CoL.

The first section has introduced the topic. The second section is based on the literature review. Section three contains a discussion on data and methodology. Section four describes the empirical results based on data and methodology. Lastly, section five concludes the study.

## 2. Data and Methodology:

### 2.1 The Data

The sample of the present study is based on the workers' data of 11 large cities in Pakistan.[1] Workers who are living in urban cities for the period of 2005, 2007, 2010, and 2013. Microeconomic data of these large cities are taken from Pakistan Social and Living Standards Measurement (PSLM) Survey with Household Integrated Economic Survey (HIES) for the period of 2005, 2007, 2010 and 2013. This data is collected by the Pakistan Bureau of Statistics (PBS).

In the present study, the sample of workers is restricted between the age of 10 to 60 years.[2] There are 3670 workers in the slab of 10 to 60 years in the year 2005; however, it was 3985, 3759, and 3964 in 2007, 2010, and 2013, respectively.

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[1] It includes eight from Punjab (Rawalpindi, Sargodha, Faisalabad, Gujranwala, Sialkot, Lahore, Multan, and Bahawalpur), three from Sindh (Sukkur, Hyderabad, and Karachi)
[2] Described as in Labour Force Survey LFS

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**Data Description of theVariables**

| Variable | Definition |
|---|---|
| Monthly wage | Monthly wage receive by paid workers with the age from 10 to 60 years as described in LFS |
| COL | Cost of Living Index is constructed by monthly expenditure of household (food and non food expenditure).[3] |
| Experience | Square of Age of worker |
| Education | Continuous variable of years of schooling |
| Occupation | Dummy variable, if worker is white collar job[4]1 and blue collar job[5] 0 |
| Marital status | Dummy variable, if married =1, otherwise(widow, divorced and single) =0 |

*Source: Author's illustration Note*

## 2.2 Methodology:

Economist proposed that difference in productivity leads to the wage disparity. Several empirical studies have been undertaken to test the hypothesis of wage disparity statistically. The first decomposition method was employed by Kitagawa (1955). Later on, Blinder-Oaxaca (1973) enhances this model by incorporating the effect of the unobserved part. This new version of the mean difference model is mostly used in the labour market, such as wage disparity. Moreover, this model is an essential tool for estimating the wage disparity.

Suppose $\omega$, is the wage for the individual "$i$" which is our outcome variable of interest. Assume there are two groups, i.e., high wage group and low wage group[6] which is represented by $\omega^h$ and $\omega^l$, respectively. Furthermore, consider $\omega_i$ is a vector of explained determinants, $x_i$, according to a regression model:

$$\omega_i = \begin{cases} \beta^l x_i + \varepsilon_i^l & if\ low\ wage \\ \beta^h x_i + \varepsilon_i^h & if\ high\ wage \end{cases} \qquad 1$$

where β is the vector of parameters, including intercepts. It is assumed that the value of the $\beta^h$ is higher than the $\beta^l$. Also, consider that the mean of the high wage individual is higher than the low wage individuals. The result is that the low wage have a lower mean value of $\omega_i$ than do high wage individuals. The gap between these two groups can be represented as follow;

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[3] The items consists of food, clothing, housing, fuel and lighting, transport, education, footwear, tobacco, misalliance expenses and others.
[4] Chief executives, senior officers, legislators, managers, professors and associates professors in all fields
[5] clerks, services and sales workers, craft and related trade workers, plant and machine operators, and assembles
[6] Yearly city wise average is computed by province then found high wage and low wage city in both provinces, made pool data by using it

$$\omega^h - \omega^l = \beta^h x^h - \beta^l x^l \qquad\qquad 2$$

Where $x^h$ and $x^l$ are the vector of explanatory variables evaluated at the means for the high and low wage, respectively. In our empirical model, CoL,[7] experience, education, marital status, and occupation are included in the explanatory variables set. However, for simplicity consider two explanatory variables, then Eq. 2 can be modified as follow;

$$\omega^h - \omega^l = \left(\beta_0^h - \beta_0^l\right) + \left(\beta_1^h x_1^h - \beta_1^l x_1^l\right) + \left(\beta_2^h x_2^h - \beta_2^l x_2^l\right)$$
$$\omega^h - \omega^l = G_0 + G_1 + G_2 \qquad\qquad 3$$

so that the gap in $\omega$ between the high and the low wage can be thought of as being due in part to (i) differences in the intercepts ($G_0$), (ii) differences in $x_1$ and $\beta_1$ ($G_1$), and (iii) differences in $x_2$ and $\beta_2$ ($G_2$).

The parameter of equation 2 can be estimated by substituting the mean of a sample of the $x's$. This process can be advance further if we calculate differently between specific groups of the explained and unexplained component.

The mean difference between the two outcomes can be written in either of two ways:

$$\omega^h - \omega^l = \Delta x \beta^l + \Delta \beta x^h \qquad\qquad 4$$

where $\Delta x = x^h - x^l$ and $\Delta \beta = \beta^h - \beta^l$, or as

$$\omega^h - \omega^l = \Delta x \beta^h + \Delta \beta x^l \qquad\qquad 5$$

These decompositions are equally valid. The first difference of the $x's$ is the weighted by the value of the estimated parameter of the high wage group, and the differences in the estimated parameter are weighted by the $x's$ of the low wage group, vice versa. In both ways, it is dividing the gap in outcomes between the low and the high wage groups. Equation 4 and 5 are the special cases, while the more general decomposition is as follows:

$$\omega^h - \omega^l = \Delta x \beta^l + \Delta \beta x^l + \Delta x \Delta \beta$$
$$\omega^h - \omega^l = E + C + CE \qquad\qquad 6$$

The gap in mean outcomes can be divided into the endowments ($E$), the gap in coefficients ($C$), and a gap arising from the interaction of endowments and coefficients ($CE$). Equations 4 and 5 are special cases in which

$$\omega^h - \omega^l = \Delta x \beta^l + \Delta \beta x^h = E + (CE + C) \qquad\qquad 4'$$

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[7] Cost of living is construct through Principal Component Analysis (PCA) econometric methodology by utilizeing 37 group of 288 commodities.

$$\omega^h - \omega^l = \ \Delta x \beta^h + \ \Delta \beta x^l = (E + CE) + C \qquad\qquad 5'$$

Hence, the first decomposition represents the unexplained part, while the second represents the explained part.

Oaxaca-Blinder's is a particular situation of alternative decomposition:

$$\omega^h - \omega^l = \ \Delta x [D\beta^h + (I - D)\beta^l] + \ \Delta \beta [(I - D)\beta^h + D\beta^l]$$

where $I$ is the identity matrix and $D$ a matrix of weights, in the simple case, where $x$ is a scalar rather than a vector, $I$ is equal to one, and $D$ is a weight. In this case, $D = 0$ in the first decomposition, equation 4, and $D = 1$ in the second, equation 5.

## 3. Empirical Results

The present study used Oaxaca-Blinder (1973) econometric method for the estimation of the wage disparity in the province of Sindh and Punjab, between HWCand LWC, subsequently with COL variable and without it. The objective of this research is to observe why the disparity of wage increases without the CoL for LWC and HWC workers.  Literature is available of wage disparity in-depth, but the wage disparity of HWC and LWC is not explored for the Pakistan labour market. Results of this study  are explained as follow;

The empirical result of the Oaxaca-Blinder estimation technique for wage disparity is represented in  Table 1 by using the wage model. Wage disparity is analyzed with cost of living (W-Col) and without cost of living (WO-CoL) for the province of Punjab. Furthermore, wage disparity is also investigated across HWC and LWC. In the WO-CoL model, all the parameters are statistically significant; 9.22 is the monthly average wage for HWC, and the monthly average wage coefficient is 8.63 for LWC, yielding a disparity of wage between HWC and LWC is about 0.59 unit. This difference can further be classified into three groups. The first part of the group is the endowment term. This term represents the average increase in wages of the city that have low wages if it had similar characteristics as HWC. The second element of the  group is the measures of difference in LWC when exploiting the coefficients of high wages to the LWC features. The difference in coefficient and endowment effect is measured by the third component, which is called the simultaneous effect. The second column results of table 1 represent that  Rs.10165 is a geometric average of HWC, whereas that of the LWC is Rs.5612; the calculated difference between these geometric averages is about 44% WO-CoL model.

Conversely, in the W-CoL model, for HWC, the gross monthly wage is 9.30, and 8.99 is the average gross monthly wage for LWC, yielding 0.31 a wage disparity. The

last column implies that there is approximately about 26% difference between the HWC and LWC of Punjab.

The central hypothesis of the present study is that the cost of living should be considered before setting the wage. This hypothesis is consistent with the empirical result, i.e., wage disparity W-CoL and WO-CoL, it can easily be inferred that the average monthly wage is higher in the case of W-CoL as compared to WO-CoL; therefore CoL should be considered while before the announcement of wage. Because CoL is not only varying across different cities but also the hypothesis of competitive wage is rejected. The average difference has decreased in the case of the W-CoL model as compared to the WO-CoL. Lastly, the number of observations are different across these two models because CoL is constructed by using Principle Component Analysis of 37 group of consumption commodities of food and non-food items.[8]

Table 1: Threefold Decomposition of High-Wage and Low-Wage Disparity with and WO-CoL in Punjab province

|  | WO-CoL | Exp(B) | W-CoL | Exp(B) |
|---|---|---|---|---|
| **HWC** | 9.22*** | 10165 | 9.30*** | 11016 |
| **LWC** | 8.63*** | 5612 | 8.99*** | 8066 |
| **Difference** | 0.59*** | 1.81 | 0.31*** | 1.36 |
|  |  | 44% |  | 26% |
| **Endowment** | 0.25*** | 1.28 | 0.10** | 1.11 |
|  |  | 35% |  | 33% |
| **Coefficient** | 0.35*** | 1.42 | 0.17*** | 1.19 |
|  |  | 39% |  | 36% |
| **Interaction** | -0.01 | 0.98 | 0.02 | 1.02 |
|  |  | 26% |  | 31% |
| **Observation** | 1246 |  | 883 |  |
| **HWC** | 724[9] |  | 615 |  |
| **LWC** | 522 |  | 268 |  |

The effect of the endowment is 1.28, which implies that the wage of  LWC's workers would increase by 28 % if they had similar attributes as HWC under the model of WO-CoL. However, endowment amounts are 1.11 under the model of W-CoL, which climaxes that if LWC had identical characteristics as HWC at that time, 11% more would be received by them. Roughly endowment effect is 17% higher in WO-CoL model, and 1.42 is the coefficient of the component in the WO-CoL model and 1.19 in

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[8] The variable of cost of living is constructed by Principle Component Analysis and household data of food and non-food expenditure have been employed for this purpose. The items consists of food, clothing, housing, fuel and lighting, transport, education, footwear, tobacco, misalliance expenses and others. The detail list of each items is available in HISE.

[9] For each year there is 1 high wage city and 1 low wage city, in each povience. The worker if High wage and Low wage are mearge four years across Punjab and Sindh, that is why this number is seems quite low, similarly for other observations.

the W-CoL model, which implies that 42 % amount in WO-CoL model and 19% in W-CoL model, rise in LWC. The simultaneous effect is negative in the WO-CoL model, while in the W-CoL model, it is positive and insignificant in both models.

Empirically it is found that wage disparity is more prominent in HWC and LWC for the WO-CoL as compared to the W-CoL model. On averages, the high-wage, and low-wage disparities 44% in WO-CoL while the 26% is W-CoL model. The results of this study highlighted that the difference in high and low-wage is more significant by 18% in WO-CoL. In the WO-CoL model, Wage disparities are overestimated.

In table 2 for cities of high and low-wage, W-CoL and WO-CoL models, Twofold decomposition has been reported for the province of Punjab. To calculate a two-fold wage decomposition model, A pooled model is used for both samples of workers considered as a reference coefficient. The conclusion of the threefold and twofold model is identical: namely, that discrimination of component or unexplained accounts greater than the inter-wage city gap. The results of the twofold wage decomposition model are analogous to the threefold model that accounts for more than the inter-wage city gap.

Table 2: Twofold decomposition of higher and lower city wage disparity with and WO-CoL in Punjab province

|  | WO-CoL | Exp(B) | W-CoL | Exp(B) |
|---|---|---|---|---|
| **HWC** | 9.22*** | 10165 | 9.30*** | 11016 |
| **LWC** | 8.63*** | 5612 | 8.99*** | 8066 |
| **Difference** | 0.59*** | 1.81 | 0.31*** | 1.36 |
|  |  | 44% |  | 26% |
| **Explained** | 0.24*** | 1.27 | 0.12*** | 1.13 |
|  |  | 47% |  | 48% |
| **Unexplained** | 0.34*** | 1.41 | 0.18*** | 1. 20 |
|  |  | 53% |  | 52% |
| **Observation** | 1246 |  | 883 |  |
| **HWC** | 724 |  | 615 |  |
| **LWC** | 522 |  | 268 |  |

The prediction of the mean wage output decomposition model, WCoL, and WO-CoL have shown in table 3 with their differences for Sindh Province by employing pool data of HWC and LWC. In table 3, for HWC and LWC, two models of W-CoL and WCoL are applied separately in table 3. The average gross monthly wage prediction in the WO-CoL model is 9.08 for HWC, while for LWC, 8.77 is the average total monthly wage prediction; therefore, 0.31 is a disparity of wage.

Moreover, for HWC, 9.14 is the gross monthly wage in the W-CoL model, and 9.01 is the average total monthly wage prediction for LWC, having a 0.13 wage

disparity. Results are summarized that the WO-CoL model has a higher gross monthly wage as compared to the W-CoL model, which implies that wage disparity is low in the W-CoL model. This wage disparity has three components, which are endowment, coefficient, and interaction parts. The second column of Table 3 shows that Rs.8852 is the log monthly wage of raw geometric average for HWC, and Rs.6458 is for LWC. The amount is 27% difference in the W-CoL model, while Rs.9343 is the raw geometric average of the monthly wage of in HWC in the W-CoL model, and Rs.8166 is for LWC which 12% amount to a difference. The effect of the endowment is 1.05, which highlights that the wages would rise by 5% in the LWC if they had similar characteristics as HWC in the WO-CoL model. In contrast, in the W-CoL model, 1.11 is the amount of endowment, which shows that if LWC had the matching characteristics as HWC, they would obtain 11% additional. The effect of the endowment is almost 17% higher, and the coefficient of component is 1.32 in the WO-CoL model, and it's 1.17 in the W-CoL model which means that 32 % amount in WO-CoL model and 17% in W-CoL model, increase in LWC.

Moreover, the effect of interaction reflects differences of endowments and coefficient, which are called as the simultaneous effect, and results of this research show that in the WO-CoL model, simultaneous impact is negative but turn into positive in W-CoL model but insignificant. In the WO-CoL model, wage dispersion is higher than the W-CoL model, which implies that wage dispersion in HWC and LWC in WO-CoL is 27% compare to W-CoL model which is 12% in province of Sindh. So, these results reflect that wage disparity is higher by 15% in WO-CoL. The WO-CoL model has not captured a real picture of difference. Hence in WO-CoL model, Wage disparity is overestimated

Table 1.3: Threefold Decomposition of High and Low Wage Disparity with and WO-CoL in Sindh province.

|  | WO-CoL | Exp(B) | W-CoL | Exp(B) |
|---|---|---|---|---|
| **HWC** | 9.08*** | 8852 | 9.14*** | 9343 |
| **LWC** | 8.77*** | 6458 | 9.01*** | 8166 |
| **Difference** | 0.31*** | 1.37 | 0.13*** | 1.14 |
|  |  | 27% |  | 12% |
| **Endowment** | 0.05** | 1.05 | -0.03 | 0.96 |
|  |  | 31% |  | 31% |
| **Coefficient** | 0.28*** | 1.32 | 0.16*** | 1.17 |
|  |  | 40% |  | 37% |
| **Interaction** | -0.02*** | 0.97 | 0.00 | 1.00 |
|  |  | 29% |  | 32% |

| | | |
|---|---|---|
| **Observation** | 4082 | 3119 |
| **HWC** | 3191 | 2576 |
| **LWC** | 891 | 543 |

In table 4 represents the twofold decomposition of W-CoL and WO-CoL for high and LWC in Sindh province. The conclusion is the equivalent of the twofold and threefold model of wage decomposition: (unexplained or component) discrimination accounts more than the inter-wage city gap.

Table 4: Twofold decomposition of higher and lower city wage disparity with and WO-CoL Sindh province

| | **WO-CoL** | **Exp(B)** | **W-CoL** | **Exp(B)** |
|---|---|---|---|---|
| **HWC** | 9.08*** | 8852 | 9.14*** | 9343 |
| **LWC** | 8.77*** | 6458 | 9.01*** | 8166 |
| **Difference** | 0.31*** | 1.37 | 0.13*** | 1.14 |
| | | 27% | | 12% |
| **Explained** | 0.03* | 1.03 | -0.03 | 0.96 |
| | | 43% | | 45% |
| **Unexplained** | 0.27*** | 1.32 | 0.16*** | 1. 17 |
| | | 57% | | 55% |
| **Observation** | 4082 | | 3119 | |
| **HWC** | 3191 | | 2576 | |
| **LWC** | 891 | | 543 | |

## 4. Conclusion

The present study used the Oaxaca-Blinder (1973) econometric model for the estimation of the wage disparity between high and low wage cities, subsequently with and without the CoL within Punjab and Sindh province. The objective of the study is to examine why this wage dispersion rises between with and without the CoL model for LWC and HWC workers of similar characteristics. Enormous literature is available on the topic of wage disparity; however the wage disparity between cities is not examined for the labour market of Pakistan.

The empirical results imply that the hypothesis of competitive wage is completed rejected within and across the provinces of Pakistan, i.e., Punjab and Sindh. Subsequently, this wage disparity remains consistent with and without CoL. Furthermore, empirical results also established that connecting the CoL variable in wage disparity equation leads to reduce wage disparities between high and LWC. Therefore the CoL should be considered for the wage-fixing across the cities.

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