Who get paid higher? A study on wages decomposition between manufacturing and non-manufacturing workers in Indonesia

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Abstract

In 2008, Indonesia became a member of the G20, and it is estimated that in 2030 it will be in the top seventh economic countries if it can keep growing. Nevertheless, high economic growth was followed by an inequality problem. This study will analyze the wage gap between manufacturing and non-manufacturing workers. Using Sakernas 2020 and the Mincer wage model regression, the result showed that all independent variables: age, level of education, gender, region of residence, marital status, toddler, disability status, and certificate training influence wages for both manufacturing and non-manufacturing workers. Next, the Blinder-Oaxaca method decomposes the wage gap between both groups. It is shown that manufacturing workers get higher wages than non-manufacturing workers because of differences in the characteristic of workers and also industry attributes which, in this case, capital intensity.

Keywords: *Blinder-Oaxaca, Indonesia, Wages*

JEL Classification: C01, J24, J31

INTRODUCTION

Rich's natural abundance and immense labor force are grace for Indonesia marked with stable and decent economic growth. Thus, in 2008, Indonesia became a member of the G20, and it is estimated that in 2030 it will be in the top 7th economic countries if it can keep growing (Oberman et al., 2012). Nevertheless, high economic growth was followed by an inequality problem, as seen from the Gini ratio data rise over the last decade from 0.3799 in 2010 to 0.3999 in 2020. Researchers have conducted many studies to answer the source of inequality problems with various approaches, like the migration of workers (Nogroho, 2016), differences in human capital (Rahmi et al., 2019), and the most general gender wage gap (Hennigusnia, 2014; Wicaksono et al., 2017; Laurensia & Yuliana, 2020; Nasution & Yuniasih, 2022). However, in Indonesia, there is no discussion about the wage gap associated with the inter-industry wage differential concept, which has been discussed in many countries over recent decades.

Slitchter (1950) pioneered the inter-industry wage differential concept, which found wage variations among workers with similar human capital quality and working conditions. Another various study conducted refers to inter-industry wage differential theory earlier like Dickens & Katz (1987), who discovered that although controlled by labor characteristics and human capital factors, they found a wage gap between high-

skilled and low-skilled workers. Krueger and Summers (1988) also show that a wage gap occurs for workers with identical characteristics and similar working conditions. Many research findings have confirmed similar findings (Du Caju et al., 2010; Papapetrou & Tsalaporta, 2017; Wang et al., 2018). The latest study is based on Slichter (1950) and conducted by Menezes & Raposo (2011). They found proof that a big company pays their workers higher than a small company; which variables that affect it are age, gender, level of education, types of contract, and hours of working. Thus, it can be concluded that the wage gap is both workers' characteristics and industry affiliates (Carpio et al. 2015).

This research will use the inter-industry wage differential concept to study the wage gap between Indonesian workers using the Blinder-Oaxaca decomposition method (Blinder, 1973; Oaxaca, 1973). This method decomposes the wage inequality factor into two parts: the difference of observed characteristics (explained variable) or differences in endowment like age, education, experience, and type of job. The second part is differences in treatment and assessment between two groups in the labor force market or differences in characteristics that are not observed (unexplained variable) or are usually called differences due to discrimination.

Several studies have been conducted using the Blinder-Oaxaca decomposition method. Motellon et al. (2011); Herrera-Idaraga et al. (2016) found that the wage difference is a consequence of regional differences. Nogroho (2016) groups workers based on migration (migration wages differentials), and of course, Blinder (1973); Oaxaca (1973) use discrimination theory to explain wage differences.

The question is, what kind of industry attribute can explain wage differentiation? Griliches (1969) proposes Capital Skill Complementary (CSC) hypothesis, which states that high-skilled workers' skills are more suitable for capital than low-skilled workers. Ultimately, high-skilled workers' productivity rises, getting paid more than low-skilled workers. This hypothesis has been proven empirically by Wang & Ma (2017), Perez-Laborda & Perez-Sebastian (2020), and Correa et al. (2018). Thus according to the capital skill complementary hypothesis, this research will consider capital intensity as an industry attribute to elaborate on the source of a wage gap between workers.

The industry can be divided into labor-intensive and capital-intensive based on capital intensity. Das et al. (2009) identify labor-intensive industries by computing industries' average labor-intensity (L/K) ratio. Then each industry calculated the labor-intensity ratio too. All the industries with a labor-intensity ratio higher than the average labor-intensity ratio were considered labor-intensive industries, and all those with a ratio less than average were labeled capital-intensive. At first, this research will use the same method. However, data limitations make us cannot calculate the labor-intensity (L/K) ratio. Thus, the researcher will only divide workers into two groups: those who work in the highest capital intensity become 1 group, and the rest into 1 group.

This study will divide workers into manufacturing and non-manufacturing workers. The question that should be answered is how large the wage gap between manufacturing and non-manufacturing workers is and whether endowment causes enlarges the differences or zoom out them.

METHODS

This study uses microdata from National Laborforce Survey (Sakernas) in 2020, which covers Indonesia. The worker grouped into manufacturing and non-manufacturing workers. Variables to be researched are wages, human capital

(education, disability status, certificates of training), and worker characteristics (age, type gender, region residence, marital status, and whereabouts of a toddler). The definition of the operational variable can be seen in Table 1.

Data were analyzed using the descriptive analysis method, multiple regression method, and the Blinder-Oaxaca decomposition method. Models used refer to the Mincer's earning function (1974) with details as follows:

$$lnY_i = \beta_0 + \beta_1 X + \varepsilon_i \quad (1)$$

where lnY_i is the natural logarithm of monthly wages. Substituting the function with independent variables to the equation, the empirical modeling of each group of worker is formulated as follow:

$$\ln(wage)_{M,N} = \beta_{0,M,N} + \beta_1 age + \beta_2 age^2_{M,N} + \beta_3 Gen_{M,N} + \beta_4 Mid_{M,N} + \beta_5 High_{M,N} + \beta_6 Univ_{M,N} + \beta_7 Res_{M,N} + \beta_8 Mar_{M,N} + \beta_9 Todd_{M,N} + \beta_{10} Dis_{M,N} + \beta_{11} Trai_{M,N} + \varepsilon_i \quad (2)$$

Table 1. Definition of operational variable

No	Variable	Definition	Information
1	Index M N	Group manufacturing workers (M) and non-manufacturing workers (N)	
2	Ln(wage)	Income During a month ago	
3	age	Age (calculated based on latest birthday)	
4	age^2	Age square	
5	Gen	Gender	0. Female 1. Male
6	Mid	Highest level of education completed: Junior High School	0. Other 1. Junior High School
7	High	Highest level of education completed: Senior High School	0. Other 1. Senior High School
8	Univ	Highest level of education completed: University	0. Other 1. University
9	Res	Region of residence	0. Rural 1. Urban
10	Mar	Marital status	0. Not married 1. Ever Marry
11	Todd	Existence toddler	0. No, there is 1. There
12	Dis	Disability status	0. No 1. Yes
13	Trai	Certificate training	0. No 1. Yes

The next step is to measure the wage gap between manufacturing and non-manufacturing workers using the Blinder-Oaxaca decomposition method to decompose the difference in the average wages of the two groups. The method share level of wages into two parts, namely explained and the residual part that cannot be calculated by defined (unexplained) (Blinder, 1973; Oaxaca, 1973). The unexplained part could be considered factor discrimination but can also be interpreted as an amount from the independent variable that is not entered in models.

To decompose, we could form a wages function for each group, namely as follows:

$$lnY_{iM} = \beta_{0M} + \beta_M X_M + \varepsilon_i \quad (3)$$
$$lnY_{iN} = \beta_{0N} + \beta_N X_N + \varepsilon_i \quad (4)$$

The results of each group could be written as follows:

$$ln\,\bar{Y}_{iM} = b_M \bar{X}_M \quad (5)$$
$$ln\,\bar{Y}_{iN} = b_N \bar{X}_N \quad (6)$$

The wage gap between the two groups is the total difference in wages between manufacturing and non-manufacturing workers so that the value is determined with reduced equations (5) and (6)

$$\Delta\bar{Y} = (\bar{Y}_M - \bar{Y}_N) = b_M\bar{X}_M - b_N\bar{X}_N \quad (7)$$

To decompose the total wage gap, equation (7) must be customized with a counterfactual of average wages. In this research, the average wage counterfactual uses manufacturing workers as a group reference meaning that manufacturing workers get higher wages. Hence the average wage for non-manufacturing workers could also be written as follows:

$$CF = b_M\bar{X}_N \quad (8)$$

After the counterfactual factor is entered then, the equation of the wages gap becomes as follows:

$$\Delta\bar{Y} = (\bar{Y}_M - \bar{Y}_N) = (b_M\bar{X}_M - b_M\bar{X}_N) - (b_N\bar{X}_N - b_M\bar{X}_N) \quad (9)$$

$$\Delta\bar{Y} = (\bar{Y}_M - \bar{Y}_N) = b_M(\bar{X}_M - \bar{X}_N) - \bar{X}_N(b_N - b_M) \quad (10)$$

Description:
$b_M(\bar{X}_M - \bar{X}_N)$: difference because of characteristics/endowment (explained)
$\bar{X}_N(b_M - b_N)$: unexplained
CF: counterfactual variable

RESULTS AND DISCUSSION

Table 2 compares sample characteristics of manufacturing and non-manufacturing workers based on the independent variable. The average age of manufacturing workers is 3.15 years old younger compared to the non-manufacturing sample workers, who are 38.28 years old compared with 41.43 years old. Likewise, the concentration sample (mode) has a 13-year-old difference of 25 years old for manufacturing workers, while for non-manufacturing workers is 38 years old. In the group age carry-on that is 65 years old and up, the proportion of manufacturing workers is smaller than non-manufacturing workers, 3.99 percent compared to 6.50 percent. From the education level, manufacturing and non-manufacturing workers have an education highest until high school/equivalent.

Workers in manufacturing and non-manufacturing are both dominated by males compared to females, which is 59.09 percent compared to 40.91 percent. According to the industry, the male manufacturing sample is 53.39 percent, whereas the non-manufacturing male sample is 59.75 percent.

Todaro & Smith (2012) state that in urban, the availability of employment is higher and compensates for higher wages too. Table 2 shows that manufacturing workers live in urban areas more than in rural areas, which is 53.24 percent, compared with area rural by 46.76 percent. Different conditions occur in non-manufacturing workers; 60.97 percent of the workers live in the countryside, while in urban only 39.03 percent. This thing because a part really big area of Indonesia consists of the rural added largest industry that absorbs workers is agriculture which, in general, has location business in rural areas.

Based on marital status, manufacturing, and non-manufacturing workers have a relatively equal proportion of above 80 percent. Likewise, with the existence of toddlers, 70 percent or more manufacturing and non-manufacturing workers have no toddlers.

After the discussion about the characteristics demographic of workers, one decisive factor of wages level is the quality of human capital, measured by disability status indicators and certificates training (on-the-job training). From the side health, 93.03 percent of the worker state that they do not experience disturbance because of disability that will hinder their work, which is a positive condition in the enhancement of welfare. Ironically, the majority of Indonesian workers are both in manufacturing and non-manufacturing. It turns out that employees do not follow a training or have certificate-related training with their job, reaching 89.00 percent for manufacturing workers and 85.73 percent for non-manufacturing workers. By industry, the proportion of manufacturing workers with certificate sector training is larger than non-manufacturing workers.

Table 2. Sample characteristics by manufacturing and non-manufacturing

No	Information	Manufacturing	Non-Manufacturing	Total
1	Highest level of education completed %)			
	• Not school-primary school	31.73	39.97	38.85
	• Junior high school	22.37	17.63	18.28
	• Senior high school	40.06	29.01	30.51
	• University	5.84	13.38	12.36
2	Age			
	• Average (years)	38.28	41.43	41.00
	• Mode (year)	25.00	38.00	38.00
	• >65 Years (%)	3.99	6.50	6.16
3	Gender (%)			
	• Male	53.39	59.75	59.09
	• Female	46.61	40.25	40.91
4	Region of residence (%)			
	• Urban	53.24	39.03	40,50
	• rural	46.76	60.97	59,50
5	Marital Status (%)			
	• Single	19.06	17.68	17.82
	• Ever Married	80.94	82.32	82.18
6	Existence Toddler (%)			
	• There is	25.69	24.35	24.49
	• None	74.31	75.65	75.51
7	Disability Status (%)			
	• Yes	5.81	7.11	6.97
	• No	94.19	92.89	93.03
8	Ownership Certificate Training (%)			
	• Yes	11.00	14.27	13.93
	• Not	89.00	85.73	86.07

Source: Sakernas 2020, processed

Characteristics of wages

This study aims to see the wage difference between manufacturing and non-manufacturing workers. Before the analysis is conducted, it is necessary to know the average wage picture based on the independent variable, as shown in Table 3.

Based on age, the average wages received by manufacturing workers is 338 thousand rupiahs, bigger thane non-manufacturing workers. Manufacturing workers

receive average wages of 1,792,304 rupiahs per month, whereas non-manufacturing workers receive average monthly wages of 1,453,596 rupiahs. Wages received by manufacturing workers show almost positive value in every category characteristic, except in the group 65 years old and up, disability status, and ownership certificate training. This means the average wage of manufacturing workers is higher than non-manufacturing workers for the two categories above.

Table 3. Comparison of average wages according to characteristics sample (Rp)

No	Information	Manufacturing	Non-Manufacturing	Average Wage
1	Highest level of education completed			
	• Not school-primary school	943,208	810,397	825,081
	• Junior high school	1,489,440	1,073,413	1,142,356
	• Senior high school	2,332,772	1,662,811	1,781,619
	• University	3,852.127	3,422,811	3,450,289
2	Age			
	• Average (years)	1,792,304	1,453,596	1,499,417
	• Mode (year)	2,248,513	1,666,819	1,696,637
	• >65 Years	622,400	631,966	631,128
3	Gender			
	• Male	2,181,591	1,701,983	1,762,753
	• Female	1,283,160	1,062,971	1,095,714
4	Region of residence (%)			
	• Urban	2,131,684	1.939216	1,970,589
	• rural	1,161,763	922,241	946,913
5	Marital Status			
	• Single	1,948,719	1,420,618	1.502.669
	• Ever Married	1,747,500	1,461,252	1,498,640
6	Existence Toddler			
	• There is	1,899,786	1,567,150	1,615,424
	• None	1,753,671	1,417,305	1,461,784
7	Disability Status			
	• Yes	970,490	978,491	977,729
	• No	1,827,210	1,484,532	1,531,783
8	Ownership Certificate Training			
	• Yes	2,553,757	2,849,674	2,817,486
	• Not	1,702,213	1,235,087	1,300,210

Source: Sakernas 2020, processed

The largest difference in Table 3 is in the average wage group age most sample quantity (mode). The manufacturing workers get an average wage of 2,248,513 rupiahs, while non-manufacturing workers only get 1,666,819 rupiahs, which means a difference amounting to 581,694 rupiahs. This condition exists because of the difference in mode between the two groups. The mode of manufacturing workers is 25 years old, whereas non-manufacturing workers are 38 years old, so the productivity of the groups will be different hence the average wage.

Based on the level of education, the average wage of manufacturing workers is higher than non-manufacturing workers for every education group. The largest difference occurred at the high school level/equivalent, reaching 670,311 rupiahs. Thereby it could be concluded that this condition is following determinant wages based

on the human capital theory that individuals with higher education will receive more wages too (Baker & Jacobsen, 2007; Burstein & Vogel, 2017)

Based on age, wages received by workers will rise until a certain age and decrease after passing productive age, which could be said to shape an inverted U pattern. This pattern occurs both in manufacturing workers and non-manufacturing workers.

Comparison with provincial minimum wage (UMP)

Table 4 shows the distribution of workers according to wages received and by industry. Of the whole worker, as much as 25.06 percent receive wages above the UMP, while 74.94 percent get below the minimum wage. Based on industry, manufacturing workers earn wages above UMP more than non-manufacturing workers, which are 36.90 percent against 23.21 percent.

Table 4. Workers according to the field of business and comparison against UMP

Industry	Below UMP (%)	Above UMP (%)
Manufacturing	63.10	36.90
Non-Manufacturing	76.79	23.21
Total	74.94	25.06

Source: Sakernas 2020, processed

The level of education Table 5 shows the existence similarity pattern between manufacturing and non-manufacturing workers: the higher the education level, the bigger the proportion of workers who earn wages above the minimum wage.

Table 5. Workers according to industry, education level, and comparison against UMP

Industry	Below UMP (%)	Above UMP (%)
A. Manufacturing		
• Not school-primary school	84.50	15.50
• Junior high school	68.14	31.86
• Senior high school	47.03	52.97
• University	37.78	62.22
B. Non- Manufacturing		
• Not school-primary school	88.42	11.58
• Junior high school	82.54	17.46
• Senior high school	72.01	27.99
• University	44.86	55.14
C. Total		
• Not school-primary school	87.99	12.01
• Junior high school	80,16	19.84
• Senior high school	67.57	32.43
• University _	44.41	55.59

Source: Sakernas 2020, processed

Gender also affects wages received, as seen in Table 6, where the male worker who gets wages above the UMP reaches 30.40 percent, whereas the female is 16.88 percent. By industry, there is a different pattern that a male manufacturing worker who earns a wage above UMP is bigger than a female manufacturing worker (45.42 percent compared to 25.77 percent). In comparison, non-manufacturing female workers have a bigger proportion than non-manufacturing male workers (23.21 percent compared to 15.32 percent).

Table 6. Workers according to industry, gender, and comparison against UMP

Industry	Below UMP (%)	Above UMP (%)
A. Manufacturing		
• Male	54.58	45.42
• Female	74.23	25.77
B. Non-Manufacturing		
• Male	71.78	15.32
• Female	84.68	23.21
C. Total		
• Male	69.60	30,40
• Female	83.12	16.88

Source: Sakernas 2020, processed

Factors affecting wages

From the manufacturing and non-manufacturing wage model, all independent variables significantly influence dependent variables up to the level of 95 % confidence both in simultaneous and partial. The coefficient determination of R^2 in the manufacturing wage model is 31,49 percent, and in the non-manufacturing wage model is 23.22 percent (Table 7). R^2 does not matter because the data used is cross-section data with high heterogeneity (Gujarati, 2003).

Table 7. Wage model based on manufacturing and non-manufacturing worker

Variable	**Non- industrial**		**Industry**	
	Coefficient	**P>|t|**	**Coefficient**	**P>|t|**
Constant	12.4838***	(0.0009)	12.7502	(0.0020)
Age	0.0455***	(0.0000)	0.0383***	(0.0001)
Age^2	-0.0005***	(0.0000)	-0.0005***	(0.0000)
Gender				
Female (reference)				
Male	0.4645***	(0.0002)	0.5253***	(0.0004)
Level of education				
Not school-primary school (reference)				
Junior high school	0.1655***	(0.0003)	0.2938***	(0.0006)
Senior high school	0.4000***	(0.0003)	0.6422***	(0.0006)
University	0.8429***	(0.0003)	1.0865***	(0.0010)
Region of residence				
Rural (reference)				
Urban	0.2756***	(0.0002)	0.2838***	(0.0005)
Marital Status				
Not Married (reference)				
Ever Married	0.1012***	(0.0003)	0.0731***	(0.0007)
Existence Toddler				
None (reference)				
There is	-0.0420***	(0.0002)	-0.0453***	(0.0005)
Disability Status				
No (reference)				
Yes	-0.1349***	(0.0004)	-0.1912***	(0.0012)
Certificate Training				
No (reference)				
Yes	0.1273***	(0.0003)	0.0203***	(0.0007)
R-squared	**0.2322**		**0.3149**	

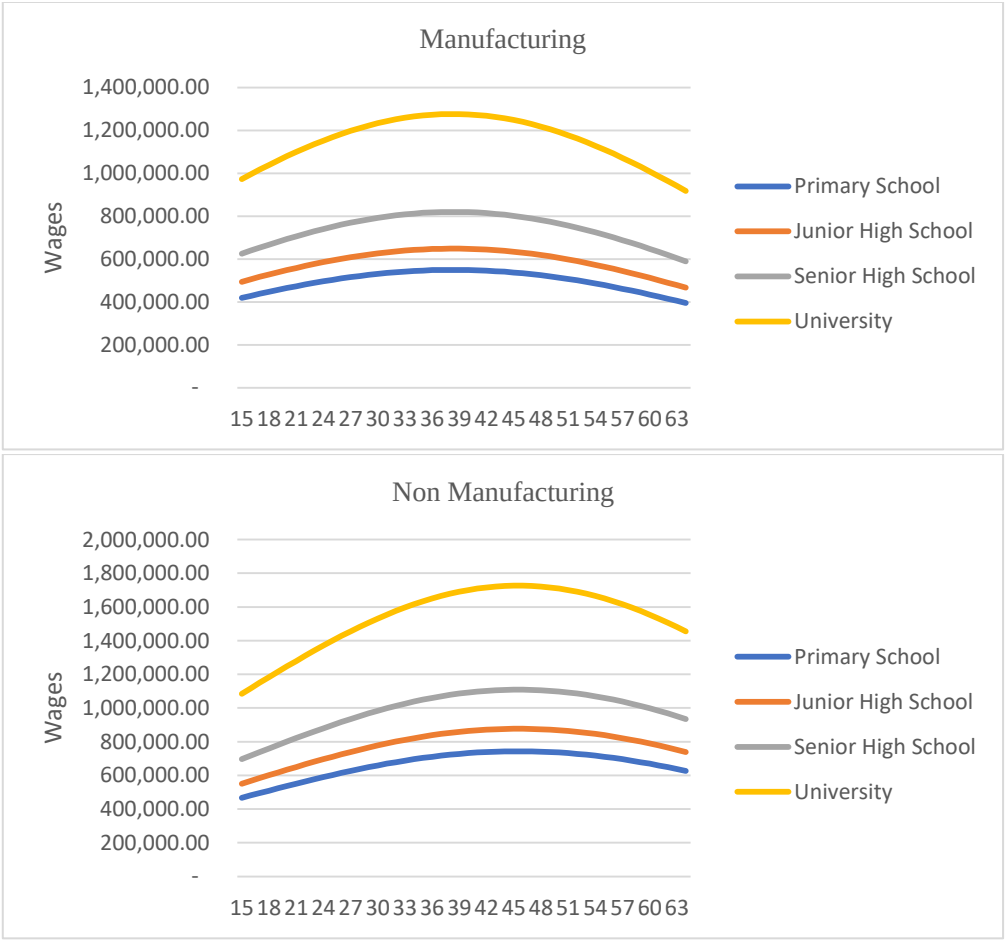
*Standard errors in parentheses. *** p<0.01, **p<0.05, *p<0.1*

The two models above show the direction of the same effect on each independent variable in the wage model, both manufacturing and non-manufacturing workers. The difference between both models lies in the value of the independent variable coefficient.

Variable age takes effect quadratic to manufacturing and non-manufacturing workers' income, peaking at 43 and 50 years. The reverse U pattern describes wages received will increase with age, and return decreases at a certain age. This result is in line with the opinion of Willis (1986); Nanfosso & Akono (2009).

According to gender, wages received by manufacturing male workers is the highest among other groups: manufacturing female worker, non-manufacturing male workers, and non-manufacturing female workers. The value of the coefficient on the gender variable shows that male manufacturing workers get wages 52.53 percent higher than female manufacturing workers. In contrast, non-manufacturing male workers get wages 46.45 percent higher than non-manufacturing female workers. This result follows the study by Anker et al. (2000)

Education level takes to a positive effect on the earnings of male or female workers. This is because the higher level of education, the more productivity will also increase, so the potential income obtained will increase (Baker & Jacobsen, 2007). The difference in the influence of the level of education on wages can be seen in figure 2.



Source : Sakernas 2020, processed

Figure 2. Estimation pattern of wages according to education level and industry

Workers in urban areas get more wages than those in rural areas. This thing occurs both in manufacturing workers and non-manufacturing workers. Manufacturing urban workers earn wages 28.38 percent higher than manufacturing rural workers, whereas non-manufacturing urban workers get wages 27.56 percent higher than workers in rural areas.

Marital status has a positive influence on wages received by both groups. This result is to the findings of Hewitt et al. (2002), Nanfosso & Akono (2009), and Parida (2019). At the same time, the existence of toddlers is not in accordance with the hypothesis at the beginning, which negatively influences wages received. It means workers with toddlers accept wages lower than workers who don't have a toddler with details by 4.5 percent for the manufacturing workers and 4.2 percent for group non-manufacturing workers. Allegedly this is because workers who have toddler work in low positions, so they get low wages, too ((Nogroho, 2016). Besides, there is a trend that working females will choose a profession with short working hours when they have toddlers, so wages are also low.(Cohen & Haberfeld, 1991; Putri et al. 2022)

Disability status also matters in wages received which is lower wages by 19.12 percent for manufacturing workers and 13.49 percent for non-manufacturing workers. Workers who have a disability will lower productivity, so that reasonable if the wages received are also lower (Forbes et al. 2010)

The decomposition wage gap between manufacturing and non-manufacturing workers

The differences in wage levels between manufacturing and non-manufacturing workers could be measured using the Blinder-Oaxaca decomposition method. This method could measure how big a wage gap is incurred and decompose the reason for the wage gap into two parts: characteristics of workers who are observed (endowment) and factors that are not could explain (factor discrimination nor differentiation). Table 8 shows the result of the Blinder-Oaxaca decomposition method.

Table 8. Decomposition Blinder Oaxaca of wages gap between manufacturing and non-manufacturing workers

Threefold

lnwage	**Coefficient**	**Robust Std Error**	**Z**	**P>z**
Overall				
Group_1 (Manufacturing)	14.3346***	(0.0002)	5.7e+04	0.000
Group_2 (non-manufacturing)	14.2468***	(0.0001)	1.3e+05	0.000
Difference	0.0878***	(0.0003)	322.20	0.000
Explained (E)	-0.0695***	(0.0001)	-522.06	0.000
Coefficient (C)	0.1244***	(0.0003)	468.26	0.000
Interaction (I)	0.0329***	(0.0002)	214.65	0.000
%E = E/R	-79.1572			
% Discrimination = C/R	141.6856			

Source: Sakernas 2020, processed

Based on the Blinder-Oaxaca decomposition method, the wage gap between manufacturing and non-manufacturing workers is 0,0878, meaning the average wage for manufacturing workers is 8.78 percent higher than for non-manufacturing workers. The 79.15 percent wage gap could be explained by the endowments factor, which is the different characteristics of manufacturing and non-manufacturing workers. That value is high enough; however, it is lower than the discrimination factor that reached 141.68

percent or exceeded the difference that occurs. Of course, the wage gap is incurred because of discrimination and vice versa. The negative sign on coefficient factor endowment shows that differences in characteristics that occur will zoom out the wage gap. So could be concluded in accordance hypothesis that there is a difference in wage-earning by each group where manufacturing workers get higher wages and also by the next hypothesis that the endowment factor lowers the wage gap.

Based on the coefficient of each endowment factor, the positive sign shows that the difference variable endowment will increase the gap, whereas the negative score sign will reduce the gap (Kapsos, 2008). Table 8 shows that positive sign occurs in the region of residence (urban/rural) and disability status (yes/no), while other variables are marked negative. The largest variable that will increase the difference is the region of residence by 2.32 percent. In contrast, the largest variable that lowers the difference is the level of education reached 4.4 percent. This means that the more inequality in development, where many areas are left behind, the bigger the wage difference between manufacturing and non-manufacturing workers, and vice versa. The equal level of education for manufacturing and non-manufacturing workers, the more the wage gap will be reduced.

Table 9. Decomposition of Blinder Oaxaca wages worker industrial and non – industrial according to variable

Variable	Total Gap	Factor Endowment	Factor Discrimination
Age		-0.0053	
Gender		-0.0034	
Level of education		-0.0440	
Region of residence		0.0232	
Marital Status		-0.0034	
Existence Toddler		-0.0003	
Disability Status		0.0024	
Certificate Training		-0.0079	
Total	**0.0878**	**-0.0695**	**0.1244**

Source: Sakernas 2020, processed

CONCLUSIONS AND RECOMMENDATION

Conclusion

Even though two identical workers have similar characteristics and working conditions, many studies have found that their wages differ depending on industry attributes since some industries pay higher and others pay lower. These phenomena are usually known as inter-industry wage differential.

Using micro data of Sakernas 2020, the theory of inter-industry wage differential based on the complementary capital skills hypothesis has been empirically proven. Manufacturing workers get paid 8,78 percent higher than non-manufacturing workers. The source of the wage gap is 79.5 percent by differences in workers' characteristics and the rest by industry attributes which is capital intensity.

Recommendation

These findings suggest that in order to reduce the wage gap, policymakers are expected to facilitate industry gains more capital easier because the more industry has

capital, the higher their worker gets paid.

This study has some limitations, especially in classifying all industries based on their capital intensity. Each industry has a different attribute that is more appropriate to analyze as a source of the wage gap; for example, In agriculture, the wage gap problem usually occurs between formal and informal workers. Therefore, future studies should pursue a more detailed analysis of inter-industry wage differential, focusing only on one kind of industry based on an attribute that best describes it.

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