

Minimum wages and the fate of Indonesian young workers

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Abstract: Government policies that are directly related to the relationship between workers and companies are determining minimum wages. The effect of this minimum wage becomes more varied for developing countries with large populations such as Indonesia. Young workers have sensitive effect to fluctuation of the minimum wage policy, whereas the percentage of Indonesia young workers is more than 20 percent of the total workforce in 2015-2019. Therefore, the aim of this research is to analyze the effect of minimum wage policies on the status of young workers in Indonesia using quantitative data from the National Labour Force Survey (Sakernas) 2015-2019 with the multinomial logit analysis method. The results of this study are an increase in the minimum wage decreases the probability of young workers to have status as paid workers in the covered sector. In urban areas, an increase in the minimum wage increases the probability of young male workers being unemployed and decreases the probability being self-employed. On the other hand, an increase in the minimum wage causes female urban workers reducing the probability of being unemployed and increasing the probability of them being self-employed. Therefore, the minimum wage policy must be balanced with strengthen the education and training and also consider policies that increase youth labor market opportunities but do not increase employer costs for young workers. On the other hand, the government must be continuous to improve policies that support the progress of informal sector, for example in terms of providing capital, reducing loan interest rates, etc.

Keywords: employment, minimum wage, young workers

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1. INTRODUCTION

Government policy that is directly related to the relationship between workers and companies is the determination of minimum wages. Wages become a central issue when viewed from the supply side of labor because it is directly related to the welfare of workers. Whereas from the demand side of labor wages is related to the cost of company production as well as from the government as an effort to equalize income and increase people's welfare. In general, determining minimum wages above the market equilibrium point will certainly reduce employment opportunities. However, the effect of this minimum wage is more varied for developing countries with large populations such as Indonesia and with the informal sector dominating more than the formal sector. Hohberg & Lay (2015) shows that the minimum wage policy in Indonesia actually increases workers in the formal sector which is allegedly due to the many shifts carried out by informal sector workers. Another study conducted by Chun and Khor (2010) shows the opposite result where the minimum wage policy actually reduces the probability of someone being in the formal sector, but apparently does not have a significant effect on the informal sector described through those who are self-employed.

The history of the development of economic dualism in Indonesia has existed since the colonial era in which the modern sector coexisted with the traditional sector. At first the modern sector was created to absorb the surplus of traditional sector labor, but instead this modern sector created a new economic dualism namely the informal and formal sectors, especially in urban areas (Hidayat, 1978). In Indonesia, the formal sector is required to provide a minimum wage in accordance with the minimum wage rate determined by the government, while the informal sector wages are more varied but most are below the minimum wage. Determination of the minimum wage must be directed to the realization of the amount of income that can fulfill a decent life with a formula of the amount depending on the value of the previous year's minimum wage, inflation and GDP growth (Pertiwi, 2017). Under this rule, the minimum wage must be applied to all workers regardless of the size or sector of the business actor. The enactment of this minimum wage should be applied by the company to every worker who has not reached one year of employment or in other words those who have just started work, while the following year the wage paid must increase from the minimum wage.

Young workers have sensitive effect to fluctuation of the minimum wage policy. Pozdena (2016) shows that young workers are the most vulnerable to this minimum wage determination policy. This is because young workers have relatively low skills, are still lacking in experience and the contributions made to the companies where they work are considered not to be sufficient enough to provide high wages (Yunisvita, 2020). The percentage of young workers in Indonesia from 2015-2019 is more than 20 percent of the total workforce, with more than 50% in rural areas. Based on the definition of ILO (2016), young workers are generally defined as workers who are in the age range of 15-24 years. However, this study does not include workers aged 15-17 years in the analysis because in this age range is still considered an early age worker and most work in the informal sector with wages below the Province Minimum Wage (uncovered sector) (Pratomo, 2016).

Compliance with the implementation of the minimum wage among young workers aged 18-24 can be seen in Table 1. This data shows that in the period 2015-2019 more than 50% of young workers get paid less than the minimum wage that has been set with the highest percentage found in workers young in the countryside. This is because in rural areas are closely identified with the agricultural sector and according to Comola and Mello (2010) percentage of informal employee is more than 80% in 2004 that not bound by the policy of applying minimum wages. In addition, Pratomo (2016) show that in this rural area the education of young workers is relatively lower so that despite knowing the existence of a minimum wage policy they tend to remain willing to be paid a low wage because of the difficulty of finding decent work, lack of experience, and the difficulty of the financial condition of the family.

Table 1. Minimum wage application compliance among young workers aged 18-24 years (%)

Region	Proportion earning ≥ UMP	Proportion earning < UMP
<i>Urban Areas</i>		
Urban areas-Males	40,5%	59,5%
Urban areas-Females	38,9%	61,1%
Total	39,8%	60,2%
<i>Rural Areas</i>		
Rural Areas-Males	24,6%	75,4%
Rural Areas-Females	16,5%	83,5%
Total	21,8%	78,2%

Source: Sakernas, 2015-2019 (Author Calculation Result)

Most of research on the impact of minimum wage in Indonesia is seen for overall employment or specific sectors. Meanwhile, studies about the affects to certain groups such as young workers, women and old workers is still limited. Besides that, the division of the formal and informal sectors

is the most widely used in view of the impact not based on wage. Therefore, this study focuses on young workers and divides the status of paid workers into two, namely workers who are paid equal or greater than the UMP (covered sector) and workers who are paid under the UMP (uncovered sector). This research does not use formal and informal terms because in reality although the formal sector is identical to the implementation of the minimum wage policy, based on 2015-2019 Sakernas data there are around 55,2% of employees in the formal sector who still get wages below the UMP determined by the government.

The purpose of this research is to analyze the impact of minimum wage policy on the status of young workers in Indonesia using the 2015-2019 Sakernas data. This study was conducted to see the possible effects of the movement of young workers from the covered sector to the uncovered sector as a result of the increase in the minimum wage. Based on data from Statistics Indonesia (BPS) in 2018 approximately 57% of the Indonesian workforce is in the informal sector, this makes Indonesia an object of research that is considered appropriate for studies looking at the possible effects of movement between these sectors.

2. LITERATURE REVIEW

We use research conducted by Broecke, et al. (2017) as one of the bases of the study. The study combined qualitative and quantitative research with meta-analysis methods to see the impact of minimum wages in 14 major developing countries. In general, the results of this study indicate that minimum wages have a negative but relatively small impact on employment but these results prove to be statistically biased. The greatest negative impact is felt by the groups most vulnerable to this minimum wage policy, namely young workers with low skills, and this also indicates that the higher the minimum wage the more likely it is to move to the informal sector. Fajnzylber (2001) researched the impact of minimum wages on income and employment opportunities individually using longitudinal data from 1982-1997. The study also investigated the indirect impacts of minimum wage increases on possible inter-sectoral movements, namely formal, informal, self-employed, unemployed and inactive. The results show that the impact of the increase in the minimum wage on workers' income is positive but the value is very small. While the impact of the increase in the minimum wage on employment opportunities tends to be negative and the greatest impact on workers who have low wages, while in absolute terms the wages of workers in the formal sector are lower than workers with low wages in the informal and self-employed sectors. In addition, this study also found that in general higher income elasticities were found in men, adults, and as household heads compared to women, adolescents and other than household heads.

In addition, Boffy-Ramirez, E. (2019) also conducted research on the impact of short-run minimum wages on employment opportunities and labor force participation using individual panel data. The results show that the increase in minimum wages does not increase unemployment in the near future or directly and there is no indication of a shift from workers who originally worked full time to part-time workers. However, this study found strong evidence that after an increase in the minimum wage there was a decrease in labor force participation rates in a short or direct period of time. Yuen (2003) also conducted research on the impact of minimum wages on employment opportunities for young workers in Canada using a panel study from 1988-1990. This study shows that increases in minimum wages tend to increase unemployment for those who are permanently low paid. Whereas those who "transit" has low salaries such as seasonal workers and so on are not affected by unemployment due to the increase in minimum wages. This is because their situation is relatively unstable. Research conducted by Millea, et al. (2017) aims to determine the impact of industry-specific minimum wages in South Africa that are segmented into covered and uncovered sectors. The results of his research show that there is evidence that wages in the formal and higher covered sectors cause higher unemployment among black workers. Whereas in the informal sector, there is no impact of the minimum wage on employment but there are indications of a move to the informal sector covered by the sector as a result of high wage increases in the formal sector.

Suryahadi, et al. (2003) conducted a study to find out the impact of minimum wages on employment opportunities especially in the formal sector in urban areas in Indonesia. The study

found that minimum wages had a statistically significant and negative relationship to formal sector employment opportunities in urban areas. The highest impact of unemployment is felt by women, young workers and workers with low skills. On the other hand, the increase in the minimum wage actually increases the employment prospects for those who fall into the white-collar workers. Therefore, some of the workers who lost their jobs in the formal sector had to move to the informal sector with lower incomes and worse employment conditions. Comola and Mello (2010) conducted a study to find out the displacement effect on formal, informal and unemployment due to minimum wage policy in 1996-2004 in Indonesia. The study show that decreasing employment in the formal sector and increasing employment opportunities in the informal sector was related with an increase in the minimum wage. The results indicate an effect of moving from the formal sector to the informal sector.

Furthermore, research conducted by Siregar (2020) is also intended to determine the impact of minimum wages on unemployment and employment opportunities in both the formal and informal sectors in Indonesia in 2001 to 2005 using provincial panel data. His findings show that in general an increase in minimum wages would reduce employment opportunities in both the formal and informal sectors and even reduce unemployment due to reduced labor force participation. In addition, this study also found that when viewed by gender and age group, the group of women aged 15-24 was the most affected due to the increase in minimum wages.

3. MATERIALS AND METHODS

The data source in this study is the National Labor Force Survey (SAKERNAS) from 2015 to 2019 (pooled cross-sectional time series). This study uses a multinomial logit model to determine the effect of increasing minimum wages on young workers based on the main employment status in Indonesia. The multinomial logit model in this study is defined as follows:

$$Employment\ Status_{irt} = Ln\ UMP_{rt} + z_{irt} + \varepsilon_{irt} \tag{1}$$

The five categories for employment status variables for every young worker-(i) that are dependent variables in this study are as follows: self-employed, unpaid workers / family workers, workers who are paid more than or equal to UMP (covered sector), workers who are paid less than the UMP (uncovered sector), and unemployment. Whereas the independent variable that becomes the main variable in this study is the natural logarithm of the Province Minimum Wage (UMP) which is set for each province r and in year t. Other independent variables are included in the z variable as a control variable follows:

Table 2. Independent variable as a control variable

No	Variable	Symbol	Definition	Source
1	Education Level	<i>Education</i>	The highest education completed 0 = education less than or equal to elementary school (reference group) 1 = junior high school 2 = high school/vocational school 3 = higher education	Sakernas
2	Age group	<i>Ages</i>	0 = 18 (reference group) 1 = 19 2 = 20 3 = 21 4 = 22 5 = 23 6 = 24	Sakernas

No	Variable	Symbol	Definition	Source
3	Relationship Status with Head of Household	<i>Household</i>	0 = Others (reference group) 1 = Head of Household (KRT) 2 = Husband/Wife 3 = Children	Sakernas
4	Marital status	<i>Marital Status</i>	0 = unmarried (reference group) 1 = marriage 2 = divorce 3 = widow/widower	Sakernas
5	Year	<i>Year</i>	Dummy variable with 2015 as a reference group	Sakernas
6	Provinces	Provinces	Dummy variable with DKI Jakarta as the reference group.	Sakernas

The results and discussion of the study of these young workers will be distinguished by sex and by region or place of residence (Urban and Rural). This is based on the assumption that there are differences in responses between sexes and between regions.

4. RESULTS AND DISCUSSION

Table 3 shows the average magnitude and distribution of the sample based on the main employment status for each category of independent variables. This descriptive description shows for each job status according to location, it is dominated by workers who are in urban areas and are male with the largest percentage being self-employed. Whereas based on the level of education, all employment statuses are dominated by those whose last education is high school with a higher percentage of those with unemployment status. Employment status varies according to age and what is interesting is the unemployment status dominated by those aged 18 years. This is in line with the results according to education level where the highest are those who graduated from high school. According to the status of the relationship with the head of the household, it can be seen that for all the main employment status of young workers are dominated by those who are domiciled as children in the family and according to marital status are dominated by those who are not married, whereas according to the survey year the results are relatively varied.

Table 4 shows the results of the multinomial logit for each status of young male workers in urban areas. These results indicate that an increase in the minimum wage further reduces the probability of young male workers to have work status as self-employed (the marginal effect value is -0.040), unpaid workers (marginal effect value is -0.005), workers paid in the covered sector (the marginal effect value is -0,347). In contrast, the policy of increasing minimum wages increases the probability of young male workers to have employment status as paid workers in the uncovered sector (the marginal effect value is 0.346), and unemployment (the marginal effect value is 0.046) in urban areas.

Comparison between the employment status of young workers in urban areas shows that the effect of the highest increase in minimum wages is on the probability of young workers to be paid workers in the covered sector. This is reasonable because these workers are directly related to the minimum wage policy. It is interesting that the magnitude of the negative impact probability between the status of young workers as paid workers in the covered, sector is smaller than the positive impact of the probability of the status of workers being paid in the uncovered sector, so that this indicates the likelihood of a movement of the majority of young male workers who are no longer able absorbed by the covered sector due to the policy of increasing the minimum wage to work and having a status as a paid worker in the uncovered sector while a fraction becomes unemployed.

Table 3. Sample Means of The Employment Statuses

Variable	Self-employed	Unpaid/Family Worker	>= UMP	< UMP	Unemployed
Ln UMP	14,4028	14,3986	14,3030	14,4272	14,3655
<i>Location</i>					
Urban areas	65,54%	57,93%	61,68%	59,61%	60,69%
Rural areas	34,46%	42,07%	38,32%	40,39%	39,31%
<i>Sex</i>					
Males	65,54%	57,93%	61,68%	59,61%	60,69%
Females	34,46%	42,07%	38,32%	40,39%	39,31%
<i>Education</i>					
<= SD	25,67%	25,11%	8,77%	18,09%	9,81%
SMP	25,15%	26,23%	14,86%	21,16%	14,53%
SMA	44,52%	45,41%	63,31%	51,14%	65,24%
Higher education	4,66%	3,25%	13,06%	9,61%	10,42%
<i>Ages</i>					
18	5,56%	14,25%	4,68%	9,09%	18,31%
19	7,83%	12,83%	8,88%	11,60%	16,97%
20	12,31%	16,55%	13,75%	15,14%	16,02%
21	14,56%	14,75%	14,63%	14,97%	14,08%
22	16,54%	14,25%	17,62%	16,34%	12,84%
23	20,67%	14,26%	19,40%	16,52%	11,70%
24	22,52%	13,13%	21,04%	16,35%	10,07%
<i>Household</i>					
Head of HH	14,00%	0,24%	8,87%	5,10%	1,68%
Husband/Wife	11,23%	10,25%	2,18%	3,23%	1,23%
Children	64,61%	81,28%	78,49%	78,63%	88,63%
Other	10,16%	8,24%	10,45%	13,03%	8,45%
<i>Marital Status</i>					
Single/Unmarried	56,36%	74,79%	81,05%	81,40%	92,83%
Married	42,10%	24,03%	18,00%	17,33%	6,14%
Divorced	1,36%	1,09%	0,87%	1,15%	0,98%
Widow/widower	0,17%	0,09%	0,08%	0,11%	0,05%
<i>Year</i>					
2015	16,76%	21,03%	17,57%	20,08%	21,74%
2016	19,01%	22,57%	17,93%	21,50%	19,16%
2017	18,49%	17,65%	21,87%	17,67%	19,55%
2018	22,46%	20,16%	20,31%	19,51%	20,05%
2019	23,28%	18,59%	22,31%	21,24%	19,50%

Source: Sakernas 2015-2019 (Author Calculation Result)

The positive relationship between minimum wage policy and the probability of young workers being paid workers in the uncovered sector is in line with the results of a study by Comola and Mello (2010) which focuses on urban areas and the results of the study show a positive relationship between the increase in minimum wages and employment in the sector informal for men and women. When viewed based on the level of education, it appears that there is a negative relationship for all levels of education with the probability of young male workers in urban areas to be paid workers in the uncovered sector.

Table 4. Marginal Effect Equation of Youth Employment in Urban Areas, Males

Variable	Self-employed	Unpaid/Family Worker	>= UMP	< UMP	Unemployed
Ln UMP	-0,040	-0,005	-0,347	0,346	0,046
Education					
SMP	-0,067	-0,019	0,208	-0,299	0,178
SMA	-0,050	-0,004	0,150	-0,188	0,091
Higher education	-0,029	0,011	0,030	-0,031	0,019
Age					
19	0,042	-0,049	0,263	0,011	-0,266
20	0,054	-0,040	0,223	0,027	-0,264
21	0,034	-0,038	0,205	0,043	-0,244
22	0,035	-0,039	0,167	0,032	-0,195
23	0,028	-0,024	0,150	0,027	-0,181
24	0,009	-0,026	0,079	0,028	-0,090
<i>Household</i>					
Head of HH	0,055	-0,036	0,124	-0,056	-0,086
Husband/Wife	-0,043	0,104	-0,220	0,210	-0,052
Children	0,009	0,034	-0,034	-0,053	0,045
Marital Status					
Married	0,066	-0,017	0,085	0,006	-0,140
Divorced	0,039	0,011	-0,009	-0,001	-0,040
Widow/widower	-0,007	-0,048*	0,263	0,215	-0,185
Year					
2016	0,057	0,007	0,204	-0,209	-0,059
2017	0,042	0,006	0,171	-0,192	-0,028
2018	0,025	0,002	0,186	-0,185	-0,027
2019	0,017	0,022	0,114	-0,124	-0,030
<i>Pseudo R-square</i>	0,0894				
n	56.352				

Notes: All regressions include province dummies. Estimated by Multinomial Logit. * Not statistically significant at α 1% and 5% levels

Source: Sakernas 2015-2019 (Author Calculation Result)

In addition, this research shows that the policy of increasing minimum wages actually increases unemployment for young male workers in urban areas. This is consistent with general economic theory as contained in Borjas (2016) in the labor demand chapter where setting minimum wages will lead to unemployment because minimum wages above market equilibrium wages for employers are seen as additional production costs.

Table 5. Marginal Effect Equation of Youth Employment in Urban Areas, Females

Variable	Self-employed	Unpaid/Family Worker	>= UMP	< UMP	Unemployed
Ln UMP	0,005	-0,030	-0,388	0,541	-0,128
<i>Education</i>					
SMP	-0,052	-0,082	0,249	-0,254	0,139
SMA	-0,027	-0,044	0,235	-0,206	0,041
Higher education	0,001	-0,008	0,091	-0,064	-0,020
<i>Age</i>					
19	0,029	-0,044	0,253	0,046	-0,284
20	0,031	-0,040	0,232	0,031	-0,255
21	0,019	-0,039	0,192	0,046	-0,219
22	0,032	-0,033	0,158	0,041	-0,198
23	0,018	-0,028	0,137	0,055	-0,182
24	0,016	-0,022	0,081	0,044	-0,119
<i>Household</i>					
Head of HH	0,042	-0,046	0,175	-0,159	-0,014
Husband/Wife	0,049	0,031	-0,023	-0,090	0,031
Children	0,014*	0,030	-0,010	-0,089	0,055
<i>Marital Status</i>					
Married	0,094	0,081	-0,059	-0,042	-0,074
Divorced	0,034	-0,005	-0,094	-0,030	0,095
Widow/widower	0,048	-0,044	-0,097	0,072	0,021
<i>Year</i>					
2016	0,022	0,020	0,169	-0,229	0,017
2017	0,036	0,032	0,108	-0,201	0,026
2018	0,016	0,009	0,130	-0,181	0,026
2019	0,014	0,027	0,090	-0,126	-0,005
<i>Pseudo R-square</i>	0,1158				
<i>n</i>	40.492				

Notes: All regressions include province dummies. Estimated by Multinomial Logit. * Not statistically significant at α 1% and 5% levels

Source: Sakernas 2015-2019 (Author Calculation Result)

The relationship between setting minimum wages and the status of young female workers in urban areas as shown in Table 5 shows slightly different results. As is the case with young male workers in urban areas where an increase in the minimum wage tends to reduce their probability of having employment status as unpaid and paid workers in the covered sector with marginal effects amounting to -0.03 and -0.3388, respectively. While different results can be seen from the increase in the minimum wage which actually increases the opportunity to have a job status as a self-employed and reduce unemployment for young female workers in urban areas with the magnitude of marginal effects respectively 0.005 and -0.128. This is in line with research conducted by Siregar (2020) whose research results are a negative relationship between minimum wage increases and unemployment. The result indicates that decline in unemployment as a result of an increase in the minimum wage is due to the possibility of moving to paid workers in the uncovered sector.

Furthermore, it also indicates many of the young female workers are leaving the workforce. While the results of Pratomo (2016) are also in line with the positive relationship between the increase in the minimum wage and the probability of self-employed status among young female workers, however more than 50% of the self-employed young female workers are in the service sector with minimal skills.

Table 6. Marginal Effect Equation of Youth Employment in Rural Areas, Males

Variable	Self-employed	Unpaid/Family Worker	>= UMP	< UMP	Unemployed
Ln UMP	-0,043	-0,026	-0,190	0,188	0,070
<i>Education</i>					
SMP	-0,091	-0,108	0,018	-0,014	0,195
SMA	-0,032	-0,041	0,066	-0,104	0,111
Higher education	-0,008	0,013	0,015	-0,034	0,015
<i>Age</i>					
19	0,077	-0,104	0,113	0,068	-0,154
20	0,062	-0,082	0,089	0,068	-0,137
21	0,054	-0,087	0,093	0,068	-0,129
22	0,041	-0,065	0,065	0,067	-0,108
23	0,030	-0,054	0,045	0,062	-0,083
24	0,015	-0,054	0,034	0,038	-0,033
<i>Household</i>					
Head of HH	0,145	-0,186	0,093	0,011	-0,062
Husband/Wife	0,052*	-0,093*	0,142*	0,028*	-0,130*
Children	-0,014	0,048	-0,004	-0,048	0,019
<i>Marital Status</i>					
Married	0,132	-0,068	0,041	0,000	-0,106
Divorced	0,010	0,050	-0,016	0,019	-0,064
Widow/widower	-0,019	0,003*	-0,012	0,031	-0,003
<i>Year</i>					
2016	0,033	-0,025	0,096	-0,030	-0,074
2017	0,039	-0,013	0,089	-0,045	-0,069
2018	0,024	-0,011	0,083	-0,043	-0,053
2019	0,014	0,007	0,057	-0,025	-0,053
<i>Pseudo R-square</i>	0,1074				
<i>n</i>	67.117				

Notes: All regressions include province dummies. Estimated by Multinomial Logit. * Not statistically significant at α 1% and 5% levels

Source: Sakernas 2015-2019 (Author Calculation Result)

Based on Indonesia Youth Employment Network (2003) there are several obstacles for young workers to be able to set up a business (self-employed), especially in terms of the lack of information

and experience. In addition, high difficulties must be faced by young workers in terms of access to capital, for example for credit in banks or looking for other sources of funding. Therefore, the easiest way to get capital is of course your own capital, loans from parents, family and relatives or the closest person but this is very limited. In addition, another obstacle is the difference in entrepreneurial culture where self-employed tends to be the last choice for them if they are no longer able to enter the covered sector and must continue to work to meet their needs.

The marginal effect of the increase in the minimum wage on the probability of having a status as a paid worker in the covered sector is higher for female workers. This shows that female young workers in urban areas are more vulnerable and have a greater impact on the increase in minimum wages than male young workers in urban areas. In addition, the positive impact of the increase in the minimum wage on the probability of having status as a paid worker in the uncovered sector on young female workers is higher than the negative impact of the increase in the minimum wage on the probability of having status as a paid worker in the covered sector. In addition, the higher marginal effect on the uncovered sector indicates the wider uncovered sector to be able to compensate and accommodate the possibility of displacement of those who are unable to be absorbed in the formal sector.

The policy of increasing the minimum wage and its relationship to employment status in young rural male workers illustrated in Table 6. The results are the same as for young male workers in urban areas with lower marginal effects for those who are paid workers in the covered sector and uncovered sectors. This is reasonable because in rural areas relatively few are protected by wage policies with the most dominant sector being agriculture. While the magnitude of the marginal effect due to the increase in the minimum wage for those who are self-employed, unpaid workers and unemployment are higher in young male workers in rural than in urban areas.

This greater marginal effect shows that the policy of increasing the minimum wage for young male workers who are self-employed and unpaid workers is an attraction to move into the status of paid workers in the uncovered sector. Comola and Mello (2010) is referred to as the "Lighthouse effect" where the increase in the minimum wage is also associated with an increase in wages for workers in the uncovered sector which makes this as a special attraction to switch to the uncovered sector. This negative relationship also gives an indication of the possibility of migration by young male workers from rural to urban areas because the application of minimum wages in urban areas is relatively more effective and adhered to and has a wage rate that is on average greater than in rural areas.

The increase in the minimum wage and its relationship to the employment status of young female rural workers as in Table 7 gives quite different results compared to urban female young workers. The magnitude of marginal effect for those who are paid workers in the covered sector due to the policy of increasing the minimum wage is higher for young female workers in urban areas compared to rural areas with the same direction of negative relations. Whereas the status of self-employed differs from the results of female young workers in urban areas where the young female workers in rural areas increasing minimum wages tend to reduce their probability of being self-employed.

The magnitude of the marginal effect as a result of the increase in the minimum wage for the status of unpaid workers is higher for young female workers in rural areas compared to young female workers in urban areas. This is in line with the magnitude of the marginal effect for those who are paid workers in the uncovered sector is very much higher than the negative impact on workers paid in the covered sector. The result indicates the possibility of high displacement of young female workers from self-employed, unpaid workers, workers who are no longer able to be absorbed in the covered sector to the uncovered sector. In addition, this high value indicates that an increase in the minimum wage such as forcing young female workers to participate in the uncovered sector or other possibilities also the migration carried out by young female workers in rural areas. In Line with Bello-Bravo (2015) show that most of woman migration from rural to urban in West Africa working in the informal sector. In addition, this study also states that the migration of women from rural to urban areas offers various benefits can be provided by empowering them

financially and socially, such as self-reliance, economy through trade, networks to find better economic opportunities and indirectly help alleviate poverty by increasing productivity.

Table 7. Marginal Effect Equation of Youth Employment in Rural Areas, Females

Variable	Self-employed	Unpaid/Family Worker	>= UMP	< UMP	Unemployed
Ln UMP	-0,104	-0,167	-0,119	0,348	0,042
<i>Education</i>					
SMP	-0,097	-0,393	0,078	0,313	0,099
SMA	-0,031	-0,225	0,077	0,100	0,080
Higher education	-0,007	-0,073	0,036	0,026	0,019
<i>Age</i>					
19	0,058	-0,045	0,063	0,091	-0,167
20	0,048	-0,052	0,059	0,100	-0,155
21	0,036	-0,042	0,047	0,095	-0,136
22	0,033	-0,031	0,057	0,077	-0,136
23	0,013	-0,029	0,053	0,070	-0,107
24	0,012	-0,025	0,025	0,050	-0,062
<i>Household</i>					
Head of HH	0,267	-0,242	0,044	0,015	-0,084
Husband/Wife	0,062	0,071	-0,015	-0,062	-0,055
Children	0,000	0,086	0,004	-0,042	0,030
<i>Marital Status</i>					
Married	0,130	0,129	-0,025	-0,075	-0,159
Divorced	0,043	-0,017	0,021	-0,006	-0,040
Widow/widower	0,130	0,058	0,021	-0,057	-0,153
<i>Year</i>					
2016	0,091	0,036	0,042	-0,086	-0,082
2017	0,082	0,051	0,033	-0,096	-0,069
2018	0,050	0,020	0,039	-0,046	-0,063
2019	0,031	0,035	0,026	-0,037	-0,055
<i>Pseudo R-square</i>	0,1613				
<i>n</i>	37.584				

Notes: All regressions include province dummies. Estimated by Multinomial Logit. * Not statistically significant at α 1% and 5% levels

Source: Sakernas 2015-2019 (Author Calculation Result)

Based on the control variables used it can be seen that the higher level of education the smaller probability of young workers to be unemployed for both men and women in urban and rural areas. This results in line with Maarten (2000) who show that someone with less education is likely to be fired earlier and can fill the job vacancies the last. Whereas based on age, the older a person's age the smaller probability of someone to have a status as an unpaid worker. This shows that increasing

the amount of the minimum wage seems to be a high motivation for young workers to participate in employment by getting paid or wages. As supporting the results, according to Yeomans (2011), there is no evidence that the older workers are less productive, because skill, strategies and experience can be utilized to compensate enabling productivity levels to be maintained. In Line with previous results, the status of a child in a family relationship relatively has a higher marginal effect value for having status as a worker who is paid in the uncovered sector for both men and women in rural and urban areas. This is an indication of the possibility that the young worker is participating in the labor market to help provide additional income in the household. These results in line with Meeks (1998) where about 20% of the American teenager is expected to contribute daily family expenses. The older age and the lower household income of the adolescent, the more likely to be expected to contribute to family expenses.

5. CONCLUSIONS

This study conducts research on the effects of minimum wage increases on young workers for each different employment status using micro-level individual data from Sakernas in 2015-2019. In general, this study found that increasing the minimum wage reduced the probability of young workers to have status as paid workers in the covered sector. However, the magnitude of the effect in detail gives different results among young workers who are male and female in urban and rural areas. In urban areas, an increase in the minimum wage reduces the probability of young male workers to be paid workers in the covered sector and increases the status of paid workers in uncovered sectors with marginal effects that are not much different and increases the probability of being unemployed and decreases the probability that they are self-employed. On the other hand, female urban workers increasing the minimum wage reduces the probability of being paid as covered workers and increasing the status of paid workers in uncovered sectors with greater marginal effects and reducing the probability of being unemployed and increasing the probability of them being self-employed. In rural areas, both young male and female workers increasing minimum wages tend to reduce the probability of being paid as covered workers and increasing the status of paid workers in the uncovered sector and increasing the probability of being unemployed and reducing the probability of them being self-employed. In general, this study supports the prediction of the two-sector theory which shows that an increase in the minimum wage will tend to increase the likelihood of young workers moving from the covered sector to the uncovered sector.

Therefore, the minimum wage policy must be balanced with strengthen the education and training system for the school-to-work transition for young workers to be able to compete and have the competencies required by the company. In addition to using minimum wages to increase workers incomes, policymakers should also consider policies that increase youth labor market opportunities but do not increase employer costs for young workers. Policies that would achieve both objectives include providing welfare payments to young people if their income is below a certain level of security and providing in-kind support, such as food or housing assistance. On the other hand, the government must be continuous to improve policies that support the progress of informal sector, for example in terms of providing capital, reducing loan interest rates, etc. Other than that, companies should always consider the productivity and performance of each worker, so that it is not only based on experience, age, and education.

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