

FACTORS AFFECTING THE WELFARE OF LABORERS IN INDONESIA

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Abstract:

The national development goals of Indonesia were explicitly stated in the 1945 constitution. One of the goals was to increase public welfare and educate the nation's life, in line with the goals in the points of Sustainable Development Goals (SDGs). Development in Indonesia that has been carried out through measures of poverty, unemployment, and inequality has yet to be successful. Therefore, the development paradigm began changing to a country's human capital. If human capital development is carried out, it can increase welfare through other aspects, such as the use of technology and labor productivity. In addition to human capital, this study also measured the influence of regional factors, which are often related to infrastructure built to increase economic activity. This study aims to analyze the factors that affect welfare in Indonesia using a quantitative approach with a logistic regression method. The result showed that education, health, and some control variables such as age and the number of dependents had a significant effect on welfare in a =1%, and all independent variables used in this study simultaneously had a significant effect on welfare.

Keywords: Micro, Labor, Welfare Factors, Indonesia.

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INTRODUCTION

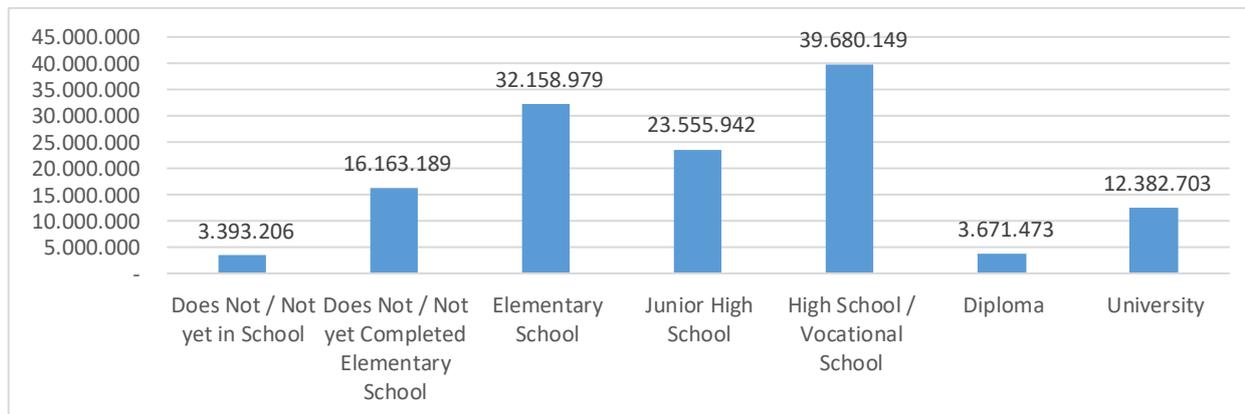
All countries worldwide, including Indonesia, are purposeful in their development effort. The objectives of Indonesia's national development are explicitly stated in the preamble of its constitution; two of them are to improve public welfare and educate the people's life. Those objectives are harmonious with the objective of Sustainable Development Goals. It made the nation's government have started the development since the reign of the New Order. However, the development relied too much on physical capital as the driver. Such a view has lessened other development indicators, such as poverty, discrimination, unemployment, and income distribution, under the growth of national output (Todaro, Michael P. dan Smith, 2011).

The concept of development that highlights output growth above survived until around 1950 and 1960. In the following period, the success of the development is measured not only based on output growth but also general changes in public conditions. Therefore, the concept of development keeps changing, adapting to the need of society until now, while development success is valued based on the outcome considering people's condition. It is because the current development, conducted based on poverty, unemployment, and disparity measures, is considered a failure (Todaro, Michael P. dan Smith, 2011). The paradigm of development has shifted, that is referring to the importance of human capital in a country.

Human capital development can induce welfare improvement through other aspects, such as the application of technology and the enhancement of labor productivity. Technology innovation

is required to increase productivity for better domestic and global competitiveness (Rahardja, 1999). However, in the production process, it needs to be accompanied by supporting elements through the roles of human capital. The crucial elements are education and health since they can upgrade the labor force's productivity. Education covers formal education programs, work-related skill training, and non-formal education. Human capital is frequently paralleled with a country's population condition.

One of which is proven by case studies in Indonesia as a developing country with population growth considered to be the highest in Southeast Asia.



Source: Sakernas, 2019

Figure 1. Population With the Minimum Age of Fifteen Years that are Included as Workforce According to Their Age and Completed Education.

Based on Figure 1, most workforce in Indonesia is high-school and vocational high-school graduates, i.e., 39,680,149 people or 30.2%. Then, the workforce who do not complete their elementary school (16,163,189 or 12.3%) is nearly equal to those who have completed their higher education (16,054,176 or 12.2%). It indicates that the workforce with low education in Indonesia is still high.

Education in Indonesia had a positive contribution to the economy in 1997. It is considered an important instrument in creating quality human life (Sumarsono, 2009), while health is complementary to other human capital such as education Pendidikan (Bloom & Canning, 2003; Konstantiuk, 2014). There are empirical shreds of evidence that productivity and wage increase along with education and work experience, but the return is higher for worker's health. With a higher life expectancy rate, the younger generation can save more to prepare for retirement (Bloom & Canning, 2003). Concerning welfare, healthier workers have longer productive ages than unhealthier ones. Therefore, for companies and their employees, incentives to invest in health capital are very instrumental, similar to investment in education and training (Gardner & Gardner, 2001).

Hence, human capital theory explains the relationship between individuals' education and health and their income and welfare (Todaro, Michael P., and Smith, 2011). Aside from welfare and health, the determining factors for worker's welfare also include wage, technology, workplace environment, security and protection, promotion, and self-development efforts. According to Jergeas (2009), resource allocation, utilization, efficiency, effectiveness, and contribution, through innovation and technology, considerably enhance productivity. Therefore, this research analyzes factors affecting worker's welfare using a micro perspective, contrasting previous works of literature that analyze physical capital and human capital that are generally linked with

macroeconomic indicators such as economic growth (as studied by Teixeira & Queirós, 2016; Liu et al., 2015; Pablo-Romero & Gómez-Calero, 2013; and Van der Eng, 2010).

In addition to human capital, this research also measures the effect of regional factors frequently related to infrastructure built to upgrade economic activities (Hendarmin, 2019). Sufficient infrastructures enable the community to drive the economy at both local and national levels (Abdullah, 2014). The role of infrastructure in studies concerning welfare is crucial to include because infrastructure development disparity still exists. Bhinadi (2003), Muta'ali (2015), and Kusuma. M.E & Muta'ali (2019) proposed that lower economic efficiency in regions outside Java is caused by poorer economic infrastructure. One disparity is the infrastructure concession between Eastern Indonesia and Western Indonesia, including the scope of Java and outside Java (Tampubolon et al., 2015; Yuliadi, 2012; and Bhinadi, 2003).

The interregional disparity contradicts the national development agenda. According to Indonesia Statistics (BPS) in 2019, the development organized by the government should reduce the disparity between income groups and regions, particularly in rural and remote areas, the eastern region of the state, and areas outside Java. Therefore, the disparity must be diminished to equalize people's welfare. It is because a country will be considered a developed economy if it has sufficient infrastructure (Sukwika, 2018). Based on the problems above, this research aims to analyze factors affecting welfare in Indonesia; they are education, health, technology, region, and other individual characteristics required to accumulate human resources to increase production capacities beneficial for laborers.

METHODS

This quantitative research is also called the positivistic approach. A quantitative study is identical to the research population/sample, the data used are in numbers, and data analysis is carried out using statistical methods to obtain research hypotheses. As a form of using quantitative research, the variables used are independent and dependent. Education, health, technology, and region, along with several control variables, which include employment conditions/individual demographics, are independent variables. Individual welfare is the dependent variable.

Meanwhile, the data used is secondary data from the 2019 National Labor Force Survey (Sakernas), accompanied by other supporting data from the Central Statistics Agency. A literature study also supports this research. The analytical method with logistic regression is intended to determine the relationship between one dependent variable and several independent variables while at the same time showing a relationship between the response variable and predictor, with the response variable Y, which is assumed to be binary qualitative, which is worth 0 and 1.

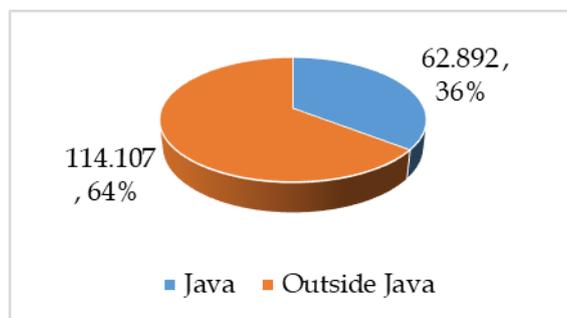
RESULT AND DISCUSSION

Based on Government Regulation Number 78 of 2015 concerning Wages, the wage policy is directed at achieving income that meets a decent living for workers/laborers. Income can be categorized as decent if it can meet the life needs of themselves and their families. According to the Regulation of the Minister of Manpower of the Republic of Indonesia Number 15 of 2018 concerning Minimum Wages, it is stated that the minimum wage is the lowest monthly wage in the form of wages without allowances or basic wages, including fixed allowances set by the governor as a safety net. At the same time, Decent Living Needs (KLH) are the standard needs of a single worker/laborer to live physically decently in 1 (one) month. Meanwhile, Article 1 paragraph (3) of the Regulation of the Minister of Manpower of the Republic of Indonesia Number 15 of 2018 concerning Minimum Wages states that the Provincial Minimum Wage, hereinafter abbreviated as UMP, is the minimum wage that applies to all regencies/cities within 1 (one)

province. The Provincial Minimum Wage (UMP) is determined based on the KHL in a province by taking into account productivity and economic growth.

Each province has a UMP, which in this study was conducted to classify samples from the 2019 National Labor Force Survey (Sakernas) data into prosperous and not prosperous groups. Prosperous category if the average monthly net income is at least equal to the UMP or more than the UMP. Meanwhile, not being prosperous is the opposite. The classification results were then converted into prosperous (worth 1) dummy variables and not prosperous (worth 0) to become the dependent variable in logistic regression testing. Then, the sample used in this study includes an overview of the province, Java - Outside Java, urban-rural residence, education level, and health level.

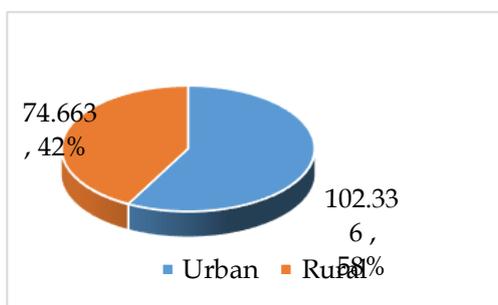
The sample area used has been distributed in all provinces in Indonesia. The provinces of Central Java, East Java, West Java, and North Sumatra are areas with a fairly high percentage of the sample. In contrast, in other provinces, the percentage of the sample is relatively balanced.



Source: Processed by Sakernas. 2019

Figure 2. Research Sample According to the Classification of Java and Outside Java

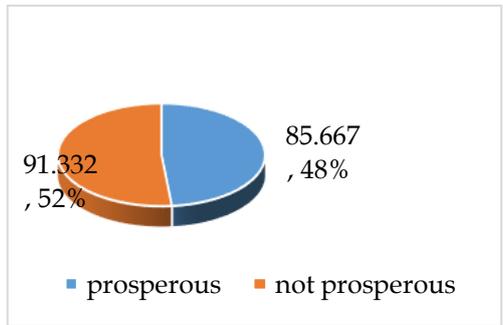
If we make a more straightforward classification into Java and Outside Java, 36% live in Java, while the other 64% live in 28 other provinces outside Java. Meanwhile, based on the classification of urban and rural areas, 58% live in urban areas, while the other 42% live in rural areas. In addition to the classification of Java and Outside Java, the classification of urban and rural areas is also part of the measurement of physical capital, related to the availability of infrastructure supporting economic activities that are thought to affect welfare. The following is an overview of the research sample according to the urban-rural classification.



Source: Processed by Sakernas. 2019

Figure 3. Research Sample Based on the Classification of Urban-Rural Area

In addition to the regional sample, there is a welfare measurement that compares the average net income for a month with the Provincial Minimum Wage (UMP) standard. Samples were grouped based on the criteria for prosperous and not prosperous. Based on their welfare, a sample

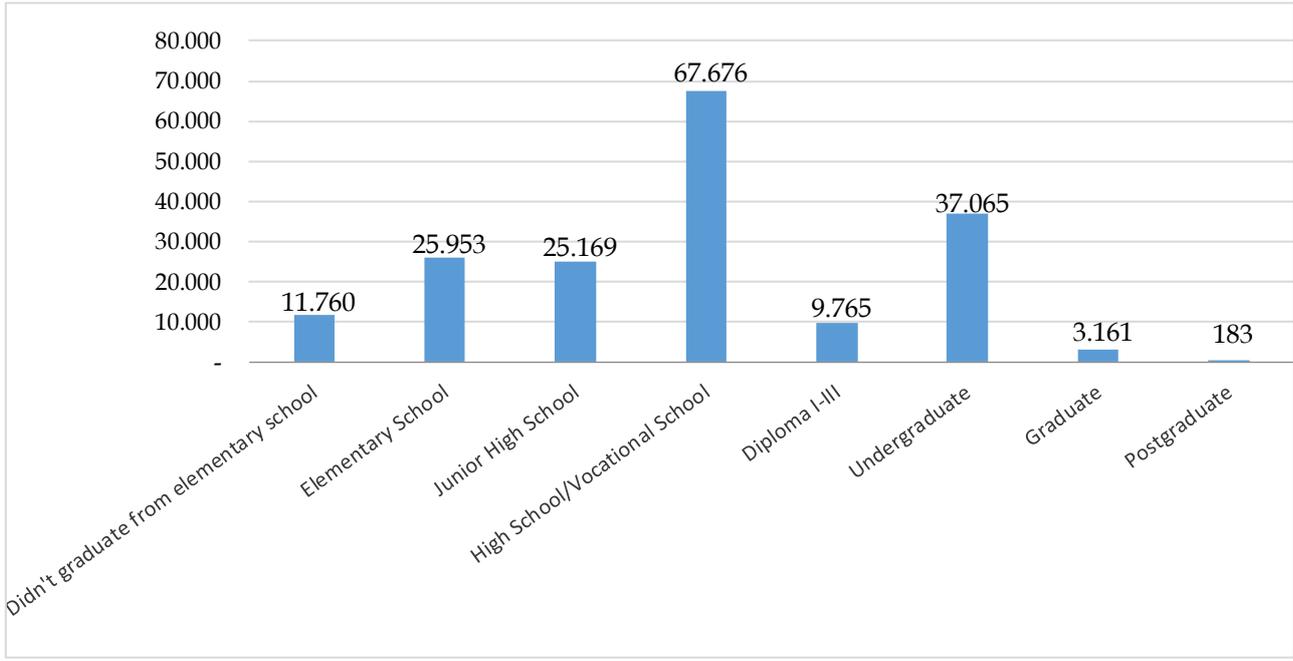


of 48% was obtained in the prosperous category, meaning that workers' average monthly income is equal to or exceeds the UMP where they live. Furthermore, samples with the criteria of not being prosperous were obtained with a relatively balanced number, namely as much as 52%. The following is an overview of the research sample according to the prosperous and not prosperous criteria.

Source: Processed by Sakernas. 2019

Figure 4. Research Sample According to the Classification of Prosperous-Not Prosperous

The following is the sample based on education level. The education level used is the latest, which is a part of human capital measurement. Based on the level of education, the sample in this study is divided into the following.

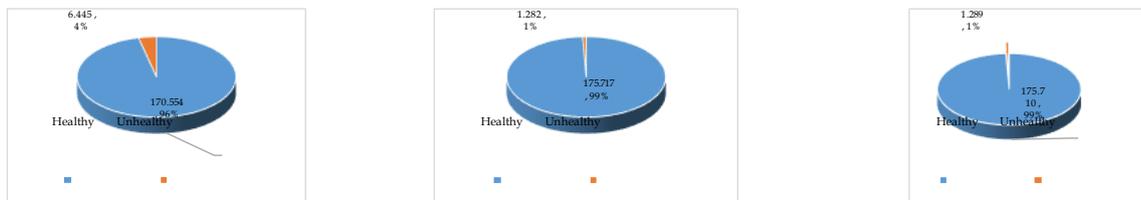


Source: Processed by Sakernas. 2019

Figure 5. Research Sample According to the Latest Education

Figure 4 shows that the sample with the largest number is workers with an SMA/SMK (high-school/vocational high-school) education, and the second highest is workers with

undergraduate education. In the research variables, regrouping was carried out at the level of education above, where the secondary education dummy variable distinguished the workforce with junior high school education, high school/vocational school (worth 1) and others (worth 0), then the higher education dummy variable that differentiated the workforce with a diploma,



undergraduate, and postgraduate education (score 1) and others (score 0). In addition to education, this study also considers health factors as part of forming human capital. The classification of the level of health is limited to the presence or absence of disorders/diseases in vision, hearing, and mobility of the feet/hands, which in general will interfere with work and are thought to affect the achievement of welfare. The following is the sample based on each group.

Source: Processed by Sakernas. 2019

Figure 6. Research Sample According to Visual, Hearing, and Mobility Health

Figure 5 shows that most samples did not experience vision, hearing, or foot/hand mobility impairments. Based on several factors used in this study, such as region, wage level, education to health, and other factors, were then tested using logistic regression testing and obtained the following results.

Table 1. Results of the Logistic Regression Test

Variable	Coef.	Odds Ratio	Std Error	Z	P> z
Secondary Education	0,848*	2,335	0,014	57,88	0,000
Higher Education	1,119*	3,064	0,018	59,03	0,000
Training	0,383*	1,467	0,014	26,74	0,000
Visual Health	-0,098*	0,905	0,028	-3,46	0,001
Hearing Health	-0,392*	0,675	0,066	-5,88	0,000
Mobility Health	-0,315*	0,729	0,063	-4,95	0,000
Technology	0,682*	1,978	0,013	51,27	0,000
Age	0,160*	1,174	0,002	59,42	0,000
Age ²	-0,001*	0,998	0,000	-47,51	0,000
Number of Dependents	-0,047*	0,953	0,003	-13,95	0,000
Java - Outside Java	0,737*	2,091	0,011	64,93	0,000
Urban- Rural	0,280*	1,323	0,010	26,07	0,000
Constant	-4,827	0,008	0,055	-86,77	0,000
Number of Observations	180.651				
LR chi ²	31545,21				
Prob > chi ²	0,0000				
Note:	*Significant at 99%				

Source: Sakernas, 2019

The estimation results show that education, health, and several control variables such as age and the number of dependents significantly affect welfare at $\alpha = 1\%$. By looking at the value of Prob chi2, all independent variables used in this study simultaneously significantly affect welfare.

Secondary Education Variable. The probability of prosperity for workers with secondary education is 2,335 times higher than for workers with other levels of education.

Higher Education Variables. The probability of prosperity for workers with higher education is 3,064 times higher than for workers with other levels of education

Training Variables. The probability of prosperity for workers with a training certificate is 1.467 times higher than for workers who do not have a training certificate.

Vision Health Variables. The probability of prosperity for workers with visual health problems is 0.905 times lower than for workers without visual health problems.

Hearing Health Variables. The probability of prosperity for workers with hearing impairment is 0.675 times lower than for workers without hearing health problems.

Mobility Health Variables. The probability of prosperity for workers with impaired mobility health is 0.729 times lower than for workers who do not have visual health problems.

Technology Variables. The probability of prosperity for workers who apply technology is 1,978 times compared to workers who do not apply technology.

Age Variable. If the age is increased by 1 year, the probability of prosperity will increase by 1,174 times.

Age Variable2. There is an effect of increasing the probability of prosperity and then decreasing after a specific age limit (the effect of diminishing returns) which is indicated by the direction of the negative coefficient on the variable age2. After a specific age limit, if the age increases by 1 year, the probability of prosperity will decrease by 0.998 times.

Variable Number of Family Dependents. If the number of dependents in the family increases by 1 person, then the probability of prosperity will decrease by 0.953 times.

Variable area of Java - Outside Java. The probability of prosperity for workers living in the Java region is 2,091 times higher than for workers living in the Outer Java region.

City-Village area variable. The probability of prosperity for workers living in the City area is 1,323 times higher than for workers living in the Village area.

Based on this research, it can be seen that one of the ultimate goals of economic development is to be able to reach the welfare of the community (Bappenas, 2010). However, basic things are needed to realize this prosperity, such as sustainable economic growth. Formation of the economic sector, inclusive and equitable economic development. If these basic things can be met, it will have an impact on increasing economic growth so that there will be increased employment opportunities. When there is the provision of jobs and the provision of decent wages, welfare can be achieved.

From the company's point of view in achieving goals based on the labor economy, labor becomes an important set that influences product quality. Therefore, using educated and skilled workers in their fields can contribute to producing results, so companies need to provide rewards to support the welfare of their workers. Welfare is influenced by factors that are proven to have a simultaneous and significant effect on the research variables used. First, the standard of living for workers is often reflected in the wages they receive, so the wage policy in Indonesia has set a minimum ceiling to ensure the welfare of the workers. The minimum wage has two sides to meet daily needs and keep workers productive so that it has a positive impact on the company (Gianie, 2009)

The relationship between labor wages and welfare is reflected in the minimum wage, which is the reference for wage policies in Indonesia. Government Regulation Number 78 of 2015

concerning Wages and Regulation of the Minister of Manpower of the Republic of Indonesia Number 15 of 2018 concerning Minimum Wages. The minimum wage is defined as the lowest monthly wage in the form of wages without allowances or basic wages, including fixed allowances set by the governor as a safety net. The minimum wage is determined based on Decent Living Needs taking into account productivity and economic growth. Further explanation is also contained in Article 1 Paragraph 1 of the Regulation of the Minister of Manpower of the Republic of Indonesia Number 15 of 2018. The minimum wage is defined as the lowest monthly wage in the form of wages without allowances or basic wages, including fixed allowances set by the governor as a safety net. The discussion on the level of wages and welfare has several points of view. Generally, there are two points of view, namely, workers and employers.

On the business side, the wage policy is one of the indirect government assistance to increase the business world's enthusiasm. If entrepreneurs can survive to produce products and goals set by the company, it can affect the demand for labor. Meanwhile, the workers' point of view states that the government can increase productivity with various efforts, including improvements in terms of quality, such as education and training. As Campell & Ungör (2020) uses a measure of human capital that is divided into three components: (i) school (years of education), (ii) cognitive skills (represented by test scores), and (iii) health indicators (used survival rate, adult life) and the relationship between the three dimensions of human capital and the level of GDP per worker. Therefore, education is an important component and a form of human capital investment. Human capital accumulation in education can consist of a mix of formal and informal education and training programs.

Human capital can be accumulated at all stages of the life cycle. However, optimally workers will spend more time building human capital early in life, receive a return on their investment in education while on the job, and factually stop receiving it when they retire (Vogel et al., 2017). Through this research, it was found that education, both formal and informal (through training), as well as mastery of technology, increase welfare opportunities for workers. This finding is in line with Hromcová & Agnese (2019) that the acquisition of education and skills is carried out according to individual characteristics, which the social environment and government policies can shape. Looking at the character of each individual, Hromcová & Agnese (2019) find that the distribution of workers in the market will depend on the characteristics mentioned above, namely their background, social perception of the importance of higher education, and the individual's willingness to achieve overcoming obstacles to achieving this level of education, which are desired. It is in line with the statement of Wirawan (2009), that the internal factors of the workforce also shape work productivity, which leads to the welfare of the workforce.

In addition, investment in education can provide more returns and benefits. Hermansson (2017), distinguishes four types of returns, namely private market returns, private non-market returns, external market returns and external non-market returns. However, besides education is an investment in human capital, there is also a health factor. Human capital consists not only of knowledge and skills but also health that humans accumulate throughout their lives, which greatly affects their potential as productive members of society (World Bank, 2019). Therefore, health is an important indicator of a prosperous life. The study found that better health increases the chances of well-being for workers through higher levels of productivity. The importance of investment through human capital provides a view for the government to allocate sufficient funding in the health sector. Even though in terms of returns, investments in the components that make up social capital are long-term investments. However, the Health program must remain the government's priority to improve people's welfare.

The ability of human capital must be balanced with flexibility in keeping up with the times. As a form of the development of an increasingly sophisticated era. In efforts to achieve prosperity through the creation of added value, technology is the main component of society (Riyana, 2008). The statement of Kadir, Abdul and Triwahyuni (2005) is in line with the findings of this study which found that mastery of technology increases the opportunities for the welfare of the workforce. It is because a significant competitive advantage can be boosted when a process gets additional technology, one of which is the addition of an information system (Kasemin, 2015). However, in addition to technological factors, this study also finds that differences in regional factors such as rural-urban, Java and Outside Java impact differences in welfare opportunities for workers. It is related to the difference in the level of income received, as shown in the following figure.

Workers in urban areas, on average, receive higher wages/salaries than workers in rural areas. The average income earned by workers in the city is Rp. 2.88 million per month, while in the village, the income is Rp. 1.85 million. This wage gap needs attention because it can trigger population movement from rural to urban areas. This phenomenon will lead to a large growth in the number of the workforce in urban areas and has the potential to increase workers in the informal sector and the number of unemployed. It follows the statement of Todaro (2003) that the motivation possessed by each individual to obtain job opportunities and results that can improve welfare is a form of response to a person's decision to migrate.

In terms of regional differences, differences in wage levels, and worker welfare, wages themselves affect productivity. High levels of wages influence increased productivity. The higher the wages, the more workers are considered to be more productive because they have better met the needs of themselves and their families. Therefore, an excellent physical condition can affect a person's productivity at work (Angkasah, 2013). However, productivity strongly correlates with wages, so companies have an important role in appreciating their employees (Yeni & Budhi, 2016). Giving a decent wage in accordance with the agreement that has been agreed with the leadership will stimulate the motivation of workers to work well so that productivity also increases (Al-Amin, 2015). Based on the statement (Awandari & Indrajaya, 2016), workers can fulfill their needs humanely. It is possible if there is a reasonable wage level so that when the income level is sufficient to meet the needs, they will increase their focus at work and can mobilize all their abilities to encourage the work productivity of each individual in Indonesia.

CONCLUSION

Simultaneously, education, training, health, mastery of technology, and the demographic characteristics of the workforce have a significant effect on the welfare of the workforce. Higher education, participation in training, better health, and mastery of technology increase the chances of the workforce prospering. The demographic characteristics of the workforce have different impacts on welfare. In the age variable, initially, there is an opportunity for welfare that increases with age. However, after a certain age limit, it is found that there is an opportunity for a decrease in welfare. Then, a higher number of family dependents also has the opportunity to reduce welfare. There are still some provinces where the average income of workers is below the standard of living needs, which indicates a lack of welfare for workers even though the minimum wage policy has been implemented. Based on the conclusion above, the suggestion for future improvements are: that it is necessary to increase the effectiveness of job training programs evenly and comprehensively, along with increasing access and quality of basic, secondary, and higher education. Educational and training institutions are expected to provide not only basic theoretical knowledge but also cognitive and practical abilities that shape thinking and problem-solving skills

so that there is a link and match between education and the needs of industry and the world of work; It is necessary to increase access and quality of health services that are getting better over time, considering the number of the workforce continues to increase; The use of technology in the company's operational activities can increase the competitiveness of workers and companies; It is necessary to increase the effectiveness of the minimum wage policy, according to regulations that companies can be subject to criminal sanctions or fines if they pay wages below the applicable minimum wage provisions.

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