THE ANALYSIS OF THE IMPACT OF WORKING-AGE POPULATION ON INDONESIAN LABOUR

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Received: 25 November 2020, Repaired: 01 February 2021, Approved: 03 February 2021

Abstract

The population is a very interesting object of study. It is because human is the main actor in economic activity, especially in terms of the labor force. The population as a workforce is one aspect of the factors of production that will contribute to the economic growth in a particular region. If the working-age population and non-working age population is well facilitated, including the enactment of government policies regarding improving their productivity, the population growth would benefit the regional economy. Indonesia is a country with a large population so that it potentially has a large workforce for economic development. Therefore, this research aims to examine the effect of the working-age population on the labor force in Indonesia. To achieve this goal, this research uses a literature review method. The data used in this study is secondary data obtained from BPS and BAPPENAS publications, books, and research articles. The discussion in this paper describes the development of the productive age population, employment issues in Indonesia, and the effect of the working-age population on employment in Indonesia. In conclusion, the high number of populations of productive age (demographic bonus) does not immediately occur. The working-age population greatly influences the workforce in Indonesia. The researchers hope that this article can be a reference for similar research in the future.

Keywords: analysis, population, working-age, employment, Indonesia

Abstrak

produktif terhadap ketenagakerjaan di Indonesia. Beberapa hal yang dapat disimpulkan
yaitu, Jumlah penduduk usia produktif yang tinggi (bonus demografi) tidak langsung
terjadi, Jumlah penduduk usia produktif sangat berpengaruh pada ketenagakerjaan di
Indonesia. Penulis berharap artikel ini dapat menjadi referensi bagi penelitian sejenis.

**Kata kunci:** analisis, penduduk, usia produktif, ketenagakerjaan, Indonesia

**INTRODUCTION**

The number of Indonesian population is about 256 million people of which the 29% of the total world population which is approximately 7.4 billion (Maryati, 2015). Data retrieved from the Inter-Cencal Population Survey (SUPAS) in 2015 states that Indonesia's population is 255.18 million (BPS, 2015). This figure continues to increase so that within 15 years (2000-2015) the population of Indonesia became 306.24 million. Apart from the total population, the SUPAS results also show that the age composition of the Indonesian population is dominated by young people. This happens because the birth rate is still high. However, the percentage of population growth decreased by 0.3% from 1.4% in 2000-2010 to 1.43% in 2010-2015 (BPS, 2015a).

BPS defines population from two different sides: the de facto is when a person lives in an area for at least six months or more and secondly, the de jure when someone lives in an administrative area and has an official residence identity letter to settle in that area. While the working-age population is a population that has been able to produce a product or service. since 1998, the working-age population is categorized from the age of 15 to 64 years (Hardati, 2013).

The population phenomenon is very interesting to examine, not only in terms of the population components process such as natality, mortality, and migration, but also the population structure components such as its growth, composition, distribution, quality, and welfare are also interesting things to study (Mardiansjah, Handayani, & Setyono, 2018).

Human is the main actor in economic activities, including in terms of employment (Handayani, Bendesa, & Yuliarm, 2016). The population in a workforce is one of the aspects of production factors that will affect the economic growth in an area. If the number of the working-age population, as well as those who are not yet productive, is well facilitated, with the enactment of government policies focusing on promoting their products, the population growth with such composition will benefit the regional economy (Putri, 2012).

However, the negative impact of population growth on economic growth are in poverty, income inequality, food availability, education, health, and international migration (Rochaida, 2016). A fast-growing population will result in a lack of productivity and capital workers. on the other hand, the vast expansion of the population will generate more experts in some fields (Astuti, Hidayat, & Darwin, 2017).

According to the World Bank, 2013, the Labour force rate in Indonesia is at the top four (Wijayanto & Ode, 2019). It shows that population growth has an impact on the number of the workforce. In 2014, the workforce in Indonesia totaled 125,316,991 people, whereas previously, it was only 122,742,601 (BPS, 2018b). This condition shows that Indonesia experiences the condition of "demographic bonus".

The demographic bonus is a great opportunity for the development because the number of working-age population outnumbered the number of non-working age population (Sukmaningrum & Imron, 2017). Therefore, the government should seriously consider how to maximize the employment of the working-age population. the unused labor will increase the unemployment rate which also may become a burden and add new problems (Wijayanto & Ode, 2019).

The demographic bonus is an opportunity that can be used as an asset for a regional development if it is meticulously
The young population must be prepared to become excellent human resources and capable of competing globally. If the young population is not well-prepared or not educated to be an excellent human resource, the condition of this demographic bonus will boomerang on our country because the unemployment rate would soar (Falikha, 2017).

The explanation above shows that population growth in Indonesia is an important aspect to study. Therefore, this study aims to examine the effect of the working-age population on the labor force in Indonesia.

**RESEARCH METHODS**

This research uses a literature review method, using secondary data as the instrument. The spatial coverage of this study is all provinces in Indonesia. This research was conducted in 2018. The secondary data used by researchers were mostly from the results of BPS and BAPPENAS publications as well as books and articles that are relevant to the studies. The data used are population census data, national labor force survey data, the Indonesian population pyramid, the dependency ratio of the Indonesian population, and the Indonesian population according to age groups.

**RESULTS AND DISCUSSION**

**Working-age Population in Indonesia**

Indonesia has been experiencing a demographic transition for about a decade. It is reflected from the results of the population census in 2000 which showed that the family planning (KB) program initiated by the government and welcomed by society as a positive effect (Damayanti & Hidayat, 2010). Meanwhile, the results of the 2010 population census showed that the number of people under the age of 15 hardly increased. While in 1970-the 1980s, the number of populations was around 60 million and by the end of 2000, the number had increased to 63-65 million. It is different from the working-age population, which has doubled from 63-65 million to 133-135 million in 30 years (BPS, 2015a).

Besides, Indonesia’s dependency ratio also shows a decline. This is evident from the data in the 1970s which was around 85-90 per 100 and in 2000 it fell to 54-55 per 100. In 2010, population census results also showed a good population composition, where the working-age population experienced an increase of 66% to 157 million people and the composition of young people (15-24 years) amounting to around 64 million people. The composition of the population as such causes the dependency ratio to drop dramatically. This is due to the number of working productive age which is greater than the number of people who are not productive yet and no longer productive. The United Nations argues that the demographic transition in Indonesia provides an opportunity for this country to experience the demographic bonus in 2020-2030 (Bhakti, Istiqomah, & Suprapto, 2017). The population pyramid and population growth in Indonesia for each census from 1971-2010 can be seen in figures 1 and 2 below.
Figure 1. Indonesian population pyramid of 1961-2010

Figure 2. Population and Population Growth in Indonesia

Figure 1 gives information about population census data in 1971, 1980, 1990, and 2000. It shows the changes in the structure of the population composition in Indonesia. In 1971 and 1980, the wide pyramid at the bottom of the young population means that the age of 0-14 years is more dominant. While the pyramids in 1990 and 2000, the population in the center increased, while at the bottom decreased. Here lies the change in the composition or age structure of the population in Indonesia. To simplify, this is the same as the number of adults and older people in Indonesia increasing while the younger population decreases (Maryati, 2015).

According to the population census in 2010, the Government published the projection of Indonesia's population until 2035. This publication was published on January 28, 2014. This publication is in collaboration with related services or instances such as BPS, Bappenas, UNFPA, and some experts in the field of demography (Widarjono, 2016).

In 2010, the population pyramid, again, shows the width at the bottom, or to put it in another way, the population aged 0-14 years is
dominant. However, the population projection pyramid in 2020 will experience changes in the age structure. The age of 0-4 years has decreased due to the decreasing birth rate, 5-9 years of age are the highest trend due to the birth rate in previous years (BPS, 2015b). The no longer productive age or over 56 years old has also increased.

This population projection uses basic data from the 2010 Population Census. It is also necessary to have the right assumptions from population elements to be able to produce population projection data. The assumptions that underlie the 2010-2035 population projections published in collaboration with Bappenas, BPS, and UNPF are based on elements of population growth rates which are: births, deaths, and migration. Besides using population data carried out by a census, data from various demographic parameters are also needed, such as the Age-Specific Fertility Rate (ASFR), Total Fertility Rate (TFR), Infant Mortality Rate (IMR), Life Expectancy, and the Net Migration data obtained from the Indonesian Demographic and Health Survey (IDHS) (Heryanah, 2015). To simplify, see the image below:

![Figure 3 Indonesian Population Pyramid Projection of 2010-2035](image)

In 2035, the population aged 0-14 years, or the young population is projected to experience a significant decline. As the population develops, the adult population or the middle part of the pyramid will soar up which means that there will be a swelling of the population of working age. The unproductive age group or those aged 65 years and over also experience a significant increase in 2035 (Heryanah, 2015).

**Indonesian Workforce**

Workforce issues in a country are reflected in its unemployment rate. There was a decline from 7.9% to 6.3% for open unemployment from 2009 to 2012. The number of unemployed people could be controlled by 7.7 million people in 2011. However, the number of working people increased from 16.2 million people in 2009 to 21.1 million people in 2011. At the same time, the underemployment category is still high around 15.4 million people. The decline in unemployment has increased the number of the part-time workforce from 31.6 million people in 2009 to 34.6 million people in 2011. This means that the number of workforces absorbed in underemployment increases by 1.5 million people each year. Therefore, the labor market problem changes from open unemployment to underemployment. This phenomenon causes an increasing number of workers whose work productivity is low or an increase in workers whose working hours are below normal working hours. In turn, the productivity of some households is
low (Hidayat, 2020).

In 2009, there were 41.4 million workers in the agricultural sector, then became only 39.2 million in 2012 or 35.7% of the total workforce. The 2015 Susenas shows that agricultural households contributed to two-thirds of the poverty rate in Indonesia, and the remaining were low-wage urban laborers. Therefore, it is crucial to know which households have low productivity problems, what the root of the problem is, and what strategies used to expand employment opportunities are.

Even though the economic growth rate ranges from 6.0%-6.5% per year, unemployment remains a development problem in a country, moreover for developing countries. Because high economic growth as such only benefits a certain group, that is the wage labor. on the other hand, workers beyond the wage sector account for 65% of the total workforce. Therefore, the problem of unemployed workers, who work below normal working hours, who work informally must be answered immediately to increase their access and productivity.

From various studies that observed the micro-scale phenomenon of the workforce, there are four groups of the most marginalized and low productivity households, those are (1) fishing households, (2) farmer households with narrow land, (3) urban informal sector, and (4) contract labor. They have different survival strategies. Through understanding these, it is expected that strategic programs will be found which may increase their productivity (Sintong, 2013).

Fishermen households are very vulnerable to poverty and low work productivity. On the west coast of Sumatra, for example, we found 82% of the population with the lowest 40% income and only 6.4% who were in the highest income 20% group. The income inequality rate measured using the Gini index shows the number 0.54. The figures for Indonesia are in the range of 0.3 - 0.4. Thus, only under 10% are classified as well off and the majority are classified as poor. The growth of the number of fisherman group households is estimated at 2.3% per year, and the female fisher wife’s participation rate is around 14.9%, compared to 35% - 40% for the national figure.

The socio-economic life of fishermen's households depends on their status. Poor fishermen are mostly traditional fishermen or crew members. Meanwhile, wealthy fishermen are motorboat owners or skippers. The development of fishermen's household productivity is directed to increase the total allocation of working time for fishing families. It would be even better if it was accompanied by the advanced technology of the fishing industry. In addition, in line with the low labor force participation of fisherwomen, the strategy to increase is directed at husbands and wives of fishermen's families (Nuraini & Pinem, 2013).

Small agricultural household groups dominate the poverty rate. There are three main problems of this group, are: (1) regarding the scale of agricultural business which is not economical so that the profits are not worth the expense; (2) there is no value-added development process; and (3) agricultural marketing problems. The characteristic of small-scale agriculture is that the allocation of male and female labor is relatively low for certain periods. Then, the modernization of agriculture resulted in excess working time in the agricultural sector. Therefore, the orientation of employment expansion needs to be more directed to optimizing additional work that could increase household income. regarding the excess working hours, it can be used as agricultural businesses complement (on-farm), for example, livestock business, or other jobs besides agriculture such as agricultural processing and trade (off-farm employment).

Job multiplication can be developed for similar businesses, so it yields specialization of by-products and efficiency of the agricultural business. In other countries such as Taiwan and Japan, they believe that this strategy could overcome the problem of poverty. to the society, in
addition to improving entrepreneurial working skills, the expansion of the types of jobs needs to encompass 3 main aspects: (1) increasing availability of cheap and necessary capital, (2) strengthening microfinance institutions, and (3) mentoring so that development packages program for them can be implemented properly.

The urban informal sector group dominates the working status of so-called self-employed workers. The family of the informal sector is characterized by a relatively limited scale of business, with limited capital accumulation. About two-thirds of them are included in the beyond wage system. Informal workers that fall into this category are unpaid family workers, independent workers, workers assisted by permanent workers, and workers who are not assisted by permanent workers. This group is very resistant to external shocks but still needs to receive protection and development from the government (Wulantari & Armansyah, 2018).

The status of informal workers as above is more popular among the community rather than being farmers. It is because the promising income from this sector is clearer than in the agricultural sector. The family needs of this informal sector depend on the type of work. For those who work in the sector of increasing added value, efforts to develop skills, quality of production and capital, are critical needs. For those who work in the sales sector, it needs a guarantee of space to open a business, as well as the need for capital and technology to develop. For this reason, the urban informal sector, to structure the type of business and business scale is a necessity to increase its work productivity (National & (BAPPENAS), 2017).

It is necessary to pay attention to poor urban workers to gain access to increasing their work activities. Skills, working capital, and institutions are the targets of their work productivity improvement policy. Meanwhile, for contract workers, they want certainty in the payment of non-permanent wages. Recently, their desire to become permanent workers has increased. The demand for urban workers not to be outsourced means that (Wulantari & Armansyah, 2018) workers implicitly ask for the certainty of status.

The government indeed faces a dilemma because outsourcing is part of the effort of the worker utilization system. thus, there are three targets of the compensation program for access to jobs of the contract workers wives, these are: increasing access to skills, access to working capital, and developing institutions. Efforts to improve the quality of the workforce are shaped for highly educated people as well as those with secondary education. Based on existing data, in 2010, there were 7.5% of the workforce with a Diploma or tertiary education. Until 2025, the figure is estimated to reach 16% of the total workforce. On the other hand, the secondary educated workforce dominates the educated workforce supply; the proportion increased from 14.7% to 20.0%. Meanwhile, on the other hand, the workforce who only finishes elementary school (SD) will decrease from 50.4% in 2010 to 30.0% in 2015 (BPS, 2018c).

The current economic crisis in Europe results in the highest unemployment rate in the 21st century. this takes place in Italy, Spain, and Greece of which the youth educated unemployment rate is already above 55%. Up until today, there is no sign of a decline in this situation. Unemployment in a country with a formal labor market and a government that adheres to a welfare state experience a much more serious problem than open unemployment in developing countries. The people in these countries are used to the unemployment compensation system. moreover, with tight regulations, it is difficult to create informal jobs so that people are not used to joining the labor market outside the wage system. On the other hand, such as in Indonesia with economic growth of 6.0% - 6.5% percent, the open unemployment rate decreased from around 9% in 2007 to around 6% in 2012. However, even though the open
unemployment rate is low, the educated unemployment rate among young people is worrying. According to Susenas (2015), an undergraduate majoring in Basic Science and Agricultural Sciences, as well as social majors such as Law, Religion, and Literature, the unemployment rate is already above 30%. Only undergraduate degrees in certain majors such as IT, Accounting, and Business have the figure below 10%. High school graduate unemployment is also still high, even though school completion is relatively low. The open unemployment of young people is exacerbated by the fact that those who are already working but still have low working hours. if it is combined between unemployed and those who work below normal working hours (below 15 hours per week), hidden unemployment for educated young people is a very serious phenomenon in the future (Gusril Henny, 2010).

The governors' policy of increasing the Provincial Minimum Wage (UMP), such as in DKI Jakarta, West Java, East Java, Central Java, North Sumatra, and others, raises pros and cons. while the workers and labor association are benefited, entrepreneurs consider this policy to be very burdensome. there is also disagreement among the academics regarding assessing this policy. Academics who agree (pro) think that this policy will improve the standard of living of the lower class. The increase in wages is expected to increase the productivity and ability of workers. Meanwhile, academics who disagreed (contra) said that this policy would have a detrimental effect on small businesses in that they are unable to pay their workers higher. Thus, the increase in wages is also expected to increase prices (Hidayat, 2020).

The research results found that an increase in the minimum wage had a very bad impact on the unemployment rate. From an economic point of view, an increase in the minimum wage becomes an incentive for workers to enter the labor market, thereby increasing the supply of workers. Meanwhile, the increase in wages rises the company expenses so that workers must be cut off.

Because the supply of workers is greater than the ability of the company to employ them, the number of unemployment arises. This is the reason behind many academics opposing the minimum wage increase policy. from the workers' side, the policy of increasing the minimum wage would harm unskilled workers because the company will only employ skilled workers according to the costs incurred. This reality is what fears many parties. The impact of the increase in the minimum wage in urban areas not only increases the possibility of increasing unemployment but also becomes the "gate" for rural communities to try their luck in urban areas so that it will increase the number of urban residents, as a factor causing urbanization from rural to urban areas (Hidayat, 2020).

The minimum wage policy adopted in the UK can be a good example if the minimum wage policies want to be applied. The policy should take a different approach to senior workers and young workers. Young workers earn a lower minimum wage than senior workers. This difference is adjusted annually so that young workers end up having the same minimum wage as senior workers. At the moment, the impact of minimum wage policies on unemployment is not very crucial. The most striking impact of this policy is the allocation of wages may increase income and reduce inequality. Inequality in Britain has fallen dramatically since the 1990s. the most benefited party is women in that their income is not far different from that of male workers. Another party that benefits are workers who received very low incomes (BPS, 2018a).

Policymakers should be able to ensure that their policies do not have negative effects on the labor market. This is crucial as the workforce is very huge with a growing number of young workers and must be maximized as much as possible. Policies that prioritize the welfare of the workforce are a logical consequence of workers' demands. The structure of the Indonesian workforce shows that 40% of the
workforce is bound to wages. The remaining workers outside the wage sector are self-employed and unpaid family workers. This group of workers is certainly not included in the priority. Ideally, workers who are members of an association have relatively better welfare than non-members. However, what is anticipated is the quality of labor demands which lead to unstable of the work process in the industry. Another problem detected is that if the open unemployment rate decreases, the number of non-permanent workers would show an increase such as 16.7% in 2009 to 21.1% in 2011. So, a decrease in the unemployment rate increases the number of non-permanent workers. This group is not the same as workers, this group is included in the inclusive workers (Wijayanto & Ode, 2019).

Why does economic absorption change the pattern of labor utilization? Some arguments can be explained. First, the existing workforce is categorized as unskilled or partially skilled labor. The composition of this unskilled workforce is 49.3% graduated from Elementary School (SD). Low-educated workers are characterized by low wages. However, when the trade union increased the intensity of its struggle, a follow-up problem arose in the form of demands for wage increases. Recently, the demands have continued to make contract workers become permanent workers. Therefore, the tug-of-war situation of the job market will be more intense in the future.

Second, the unequal attractiveness of investment between regions. The demand of cheap labor is very high in industrial areas especially around Jabodetabek or the Kertasila Gate of East Java. The direction of investment so far has resulted in higher labor mobility. The destination areas for crude labor are characterized by a relatively high open "import" unemployment rate. Indonesia needs equitable investment to expand employment opportunities as well as equitable development results.

Third, economic development is generally supported by advanced technology which therefore requires skilled workers. The supply of skilled labor is often unable to be fulfilled by the local so that it is occupied by foreign workers.

Fourth, regarding labor supply, there is an increase of younger-age job seekers with secondary and tertiary education. It is estimated that those with higher education backgrounds are not ready for employment. Susenas 2015 shows that by 2010, the unemployment rate for educated job seekers has reached 20% - 40%, depending on the field and type of knowledge they have. Investment potentially can expand employment. The government needs to improve the quality of the labor supply. Thus, three approaches need to be done:

Firstly, continue to equip the workforce with skills. An institutional skill development program would be very necessary for the future. Hence, this should be the responsibility of the Regional Manpower Office.

Secondly, the government should not only focus on increasing the minimum wage. Because the minimum wage increase would harm the decline of unskilled labor because employers try to replace labor with technology. The flexibility in increasing salary is around 0.1%. It means that every 10% increase in the minimum wage would reduce the use of labor by 1%.

Third, to ensure that job vacancies information can be widely known by job seekers. More job vacancies will reduce unemployment, especially in the formal job market. Many studies are in line with this. the domestic formal labor market is currently in the range of 40%. This should be the government's goal to boost it, because the greater the proportion of the wage labor force, the more stable the labor market will be.

Fourthly, the government needs to focus more on improving the quality of labor supply outside the formal labor market system. So far, informal workers have not received much attention. In such a case, each region needs a clear road map on how to increase the existence of the informal labor market. If this is not accomplished, then open unemployment would increase and
result in further negative effects.

Effect of Productive Age Population on Employment in Indonesia
Based on the explanation discussed above, Indonesia is currently experiencing a demographic bonus. Based on population projections that have been carried out by the Indonesian government, it is known that the demographic bonus period in Indonesia starts from 2015-2035 with an estimated dependency ratio of 0.4-0.5. This means that every 100 people of productive age in Indonesia cover 40-50 non-productive people. The composition of young people less than 15 years age will continue to decline compared to the population of adult or working age. The 49.2 dependency ratio figure in 2015 means that every 100 people of productive age bear 49.2 people who have not yet been and are no longer productive (BPS, 2015a).

The previous explanation explained that the demographic bonus is a condition in which the number of productive age population is higher than the number of populations of non-productive age. This situation did not instantly occur, or it could be that this situation would not happen for the second time in Indonesia. This situation is evidence of the success in controlling the fertility rate that the government had proclaimed in the 1960-1970s which called as family planning program, this program was started during the New Order era (Maryati, 2015). Because this is a rare opportunity, the government and Indonesian society should make the best use of this situation. This condition could encourage economic prosperity and development of Indonesia. Good quality of human resources in a productive age is an asset for Indonesia. Therefore, the government must be able to improve the quality of these assets (Falikhah, 2017)

Indonesia, which is currently enjoying a demographic bonus, will be fruitless if the population of productive age becomes unemployed. The workforce, which has no income, does not even ease the burden but adds a problem to the national economy. The National Development Planning Agency said:

... The number of national open unemployment in 2011 reached 6.56 percent (7.7 million people) of the total population. Young open unemployed (15-24 years) reached 5.3 million people, 20 percent (1.06 million people) of whom are university graduates (Maryati, 2015).

The International Labor Organization (ILO) stated that young workers in Indonesia are 4.6 times more likely to have difficulty in getting a job than adult workers because of their lower educational background. they further explain that unemployment aged 15-29 years in Indonesia reached 19.9%. This figure is the highest number among countries in the Asia Pacific region but is still lower than countries in Europe (Wulansari, 2006) (Andriani, Pitoyo, & Pangaribowo, 2018).

CONCLUSION
Based on the explanation of the discussion presented above, there are several things that can be concluded from this study:

1. The huge number of the working-age population (demographic bonus) does not instantly happen; the government and the society need to work together to make this happen.
2. The number of the working-age population greatly influences employment in Indonesia.
3. The working-age population will have a positive effect on employment if it is well prepared from the planning and its implementation.
4. The working-age population would have a negative impact if the government is unable to handle the surge of the workforce which also would increase the number of unemployment and new problems.

ACKNOWLEDGEMENT
Thank you very much to all those who have helped until the completion of this article.
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