Analysis of Working Decision of Elderly in Yogyakarta Province

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Abstract

This research aimed to analyse the the social-economis factors influencing the working decisions of elderly in Yogyakarta Province. The sample used was the elderly population of Special Region of Yogjakarta province aged 60 years amounted to 1.906 people following the number of respondents of Susenas in 2016. The analytical tool used is Binary Logit Regression using SPSS 21.The results show that the number of productive elderly people was 57,50% from the whole number of elderly people. The elderly workers dominantly work in the agriculture sector. Their profession is as an entrepreneur and mostly helped by their workers and others are as full time force workers. Binary regression test showed that duration of illness, hospitalization, dependent burden, living location, and pension guarantee significantly negative influence to their decision to go working. Meanwhile, level of primary education, marital status, and their status in the household positively significant influence to work. In addition, gender, level of secondary and higher education, and their household expenses do not significantly influence to their decision to work in the Special Region of Yogjakarta province in 2016.

Keywords : Demography Transition, Elderly, Working Decision, Binary Logit

1. INTRODUCTION

One of the factors that promote aging is decreased fertility rates, decreased life expectancy and declining facts mortality makes up for decreased fertility (Beard et al., 2012). This aging roblem causing impact to workplace (Hennekam, 2015). Demographic transition in Indonesia causes changes in population structure towards the aging process which is marked by an increase in the proportion of the elderly population. Based on population data from UNFPA and Bappenas in 2016, the proportion of the elderly population at the beginning of the project year was 1971 at 4.5%. This number continued to increase until 2015 to 8.5%. Then, the proportion of the elderly population is projected in 2020 to be 10%, until the end of the projected year is 15.8%. In contrast to the proportion of the population under 15 years of age and 15-59 years of age who experienced a significant decline.

Based on BPS data for 2017, for the past 5 years, 7 provinces have a proportion of elderly people over the proportion of national elderly. The Special Region of Yogyakarta is a province that has the highest proportion of elderly people in Indonesia. In 2016, the proportion of elderly in the Special Region of Yogyakarta amounted to 13.69%, followed by Central Java 12.05%, East Java 11.80%, Bali 10.63%, North Sulawesi 9.98%, South Sulawesi 9.04%, and West Sumatra 8.97%. Meanwhile, the proportion of Indonesian elderly is 8.69% of the total population of Indonesia. An increase in the proportion of

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elderly people will increase the dependency of the elderly, while also increasing government spending on public services (Simanjuntak, 2001).

The high proportion of elderly in the Special Region of Yogyakarta is feared to increase the burden of dependents on the population of productive age. It can be seen that the Special Region of Yogyakarta has the highest elderly dependency in Indonesia. In 2015 the dependence rate of the Special Region of Yogyakarta elderly was 20.73% and rose to 21.11% in 2016 (BPS, 2017). Adams & Rau (2004) explained the older people will tend to retire. This is because of the reduced ability and physical endurance of the elderly. The elderly population will consume more resources than they can produce themselves (Mason & Lee, 2011).

Although the proportion of the elderly and elderly dependency rates is highest in Indonesia, in 2016 the Special Region of Yogyakarta elderly who decided to be active in the labor market was also the highest compared to other provinces that had a proportion of elderly people above the proportion of the national elderly. Based on BPS data for 2017, the Special Region of Yogyakarta elderly who decided to work as much as 60.04%, while those who decided to do household activities and other activities amounted to 26% and 13.96%. Data is presented in the following figure.
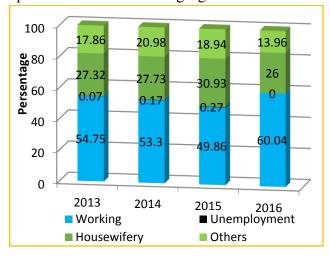

Figure 1. Proportion of the Elderly Population of the Province of Special Region of Yogyakarta according to the Type of Activity in the Last Week of 2013-2016. Source: Sakernas (2016)

In Figure 1, it can be seen the decision of the population of the elderly in the Special Region of Yogyakarta to work has decreased in 2013-2015 from the figure of 54.75% to 49.86%. This condition is supported by an increase in the decision of the unemployed elderly and take care of the household. The decision of the elderly to be unemployed in 2013-2015 increased from 0.07% to 0.27% and the decision to take care of households from 27.32% to 30.93%. Thus, elderly people prefer not to work to enjoy their old age with more spare activities.

However, the situation changed in 2016. Elderly residents in the Special Region of Yogyakarta prefer to be active in the world of work. The decision of the elderly to choose to work increased from 49.86% to 60.04% in 2016. Meanwhile, the proportion of the

percentage of elderly who chose not to work decreased. Then, the elderly who took care of the household also decreased from 30.93% to 26% and in other activities from 18.94% to 13.96%. The unemployed elderly is 0%. It can be concluded that in 2016 the population of the elderly in the Special Region of Yogyakarta prefers to enter the labor market rather than enjoy their leisure time. Based on BPS data for 2016, elderly people in the Special Region of Yogyakarta who receive a pension guarantee are dominated by elderly who live in urban areas, which is 80%. Meanwhile, the elderly who live in rural areas are only 20%. The purpose of this study is to analyze the factors that influence the decision of the elderly to work or not to work in Yogyakarta Province.

2. LITERATURE STUDY

Elderly workers are defined as employees aged 50 or older (OECD, 2006). But, Based on the Republic of Indonesia Act No. 13 of 1998 concerning Elderly Welfare, the elderly are residents who are aged 60 years and over. Williamson & McNamara (2001) state that elderly work participation has differences based on gender. Work participation of elderly men is higher than for elderly women. This statement is supported by the research of Affandi (2017), Kalwij & Vermeulen (2005), and Ling & Fernandez (2010) which concluded that older men prefer to remain working despite entering old age. This is because men are considered as the main breadwinner for the family because of the great responsibility as the head of the family (Simanjuntak, 2001). The status of the elderly as the head of the household has responsibility for the needs of the household members.

Junaidi, et al (2017), elderly who have a partner will have a greater probability of working than those who are in a status other than married. Giles, et al (2011), the elderly will decide to work to fulfill the life of themselves and their partners. Then, the probability of the elderly working is greater if the elderly have a partner who does not work. In addition to factors from individuals and families, the location of the residence is also related to the employment decisions of the elderly. The decision of the elderly still works more in the elderly who live in rural areas. The majority of rural households do not have adequate access to pension guarantees (Giles, et al, 2011),. This type of work in rural areas is generally the work of the agricultural sector. Reddy (2016) estimates about the patterns and determinants of Labour force participation of elderly in India. The factors that can influence the Labour force participation of elderly are sector of economic activity, occupation and type of employment, and wages. The results found that the majority of elderly workers are unskilled and have a lower educational achievement and lack of options to quit from labour force due to there is no opportunity to get pension benefit.

3. RESEARCH METHODOLOGY

The data used in this study were sourced from the 2016 Susenas of Special Region of Yogyakarta raw data. The number of samples used is following the number of respondents aged 60 years and over, amounting to 1906 residents. Descriptive analysis was used to analyze the characteristics of elderly workers in the Special Region of Yogyakarta. Whereas, the Binary Logit Regression model is used to analyze socio-economic factors that influence the work decision of the Special Region of Yogyakarta elderly workers in 2016.

The binary Logit Regression Model is used because the dependent variable is a dummy which consists of two categories, namely the value 1 for the elderly who decide to work and the value 0 for those who do not work. The level of trust used is 95% or α (5%). The following research models are used:

$$Ln \frac{p}{1-p} = \beta_0 + \beta_1 JK + \beta_2 TP1 + \beta_3 TP2 + \beta_4 TP3 + \beta_5 HS + \beta_6 RI + \beta_7 SK + \beta_8 SDR + \beta_9 BT + \beta_{10} LTT + \beta_{11} JP + \beta_{12} PRT + e. \dots\dots\dots\dots\dots\dots (1)$$

Information:
- Ln p / (1-p)   = the probability of the elderly working (1 = working; 0 = not working)
- JK   = gender (1 = male; 0 = female)
- TP1   = elementary education / elementary school / junior high school (1 = yes; 0 = other)
- TP2   = secondary education / high school graduation (1 = yes; 0 = other)
- TP3   = tertiary / undergraduate education (1 = yes; 0 = other)
- HS   = duration of illness (number of duration of illness last month)
- RI   = hospitalization (1 = ever; 0 = never)
- SK   = marital status (1 = married; 0 = other)
- SDR   = status in the family (1 = head of household; 0 = other)
- BT   = dependent load (number of household members)
- LTT   = residential location (1 = urban; 0 = rural)
- JP   = pension guarantee (1 = there; 0 = none)
- PRT   = household expenses (units of IDR)
- e   = error term

4. RESULT AND DISCUSSION

Susenas data in 2016 shows that the elderly population of the Special Region of Yogyakarta who decided to work was 57.5% and the remaining 42.5% decided not to work. Total elderly who decide to work in each district/city has a different percentage. The following figure is the distribution of the Special Region of Yogyakarta elderly workers by district/city in 2016.
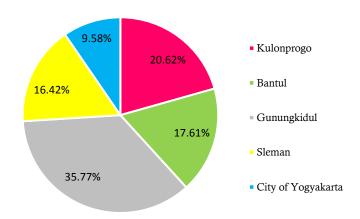
Figure 2. Distribution of Elderly Workers by Regency/City in the Special Region of Yogyakarta of 2016.
Source: Susenas, 2016

Elderly in the Special Region of Yogyakarta who decided to be active in the labor market most in Gunungkidul Regency was 35.77% of the total elderly working. This figure is far superior to other regions such as Kulonprogo, Bantul, and Sleman. Whereas, the city of Yogyakarta, which has the dominant environmental conditions in urban areas, has the proportion of elderly workers at least 9.58%. These results indicate that older people still work more in rural areas than in urban areas.

Characteristics of elderly workers in this study were seen from the main business sector being carried out and the status/position of employees in their work, and working hours to distinguish elderly as full-time workers or part-time workers. General description of the characteristics of the elderly in the Special Region of Yogyakarta in 2016 based on the 2016 Susenas Data are presented in the following table.

Table 1. Characteristics of the Special Region of Yogyakarta Elderly Workers in 2016

Characteristics	%
Main Business Field	
Farming of rice plants & palawija	63.50
Mining/excavation	0.27
Processing industry	4.38
Electricity & gas	0.18
Building/construction	3.10
Trade, hotels & restaurants	17.43
Transportation & warehousing, Information & communication	1.37
Finance & insurance	0.36
Service	8.21
Others	1.19
Total	**100.00**
Job status / position	

Entrepreneurs	28.74
Entrepreneurs are assisted by non-permanent workers/laborers who are not paid	31.02
Entrepreneurship is assisted by permanent workers/laborers paid	4.29
Labor/employee/employee	8.49
Free worker	7.39
Family workers or not paid	20.07
Total	**100.00**
Working hours	
Part time (<35 hours/week)	42.66
Full time (≥35 hours/week)	57.34
Total	**100.00**

Source: Susenas 2016, processed

The elderly who decided to work most worked in the agricultural sector with 63.50%. This figure is greater than the elderly who work in other sectors. In fact, the trade sector which ranked second amounted to 17.43%. Meanwhile, other sectors have very low with under 10%. The agricultural and trade sectors are most in demand by the elderly to decide to work because these two sectors do not need conditions such as certain skills, expertise and levels of education (Junaidi, et al 2017). Generally the elderly work more in the agricultural sector because there is no age limit in the sector such as the service sector and industry in rural areas that apply pension restrictions (Simanjuntak, 2001).

Furthermore, the status of the elderly position in their work is divided into two categories, namely as entrepreneurs/business owners and workers/laborers. Status as an entrepreneur/business owner consists of three groups, namely self-employed, trying to be assisted by permanent workers, and trying to be assisted by temporary workers. Whereas, the employment status of the elderly as workers/workers consists of 3 groups, namely as the elderly who decide to work the most are the elderly who work as free workers/employees, free workers, and family/unpaid workers (BPS, 2017).

Older workers are different from productive age workers. Elderly people who are still active in the world of work generally prefer to be business owners. This is due to physical limitations that cause the elderly to be less able to compete with young workers, plus elderly education which is still low compared to the education of the productive age workers who are now seizing decent business fields. Finally, the elderly who are still unable to meet the needs of life prefer to create their own jobs like trading. While the elderly who have limited assets for their working capital prefer to work in informal jobs such as the agricultural sector or in the trade sector but as laborers.

Based on Law No. 13 of 2003 concerning Manpower, the division of working hours is divided into two, namely full/full-time workers who work 35 hours more a week and part-time/part time workers who work less than 35 hours a week. Based on the 2016 Susenas data, the elderly in the D.I Province of Yogyakarta who decided to work had full/full time working hours of 57.34%. While the elderly who work half a day/part-time is 42.66%. Junaidi, et al (2017) states that there are reasons that encourage older people to choose to work full/part-time. First, the elderly work just to increase family income or

just spend their free time, so working with hours is not too long. Second, the elderly work as the main breadwinner (head of the household), so that the extension of work time is a survival strategy. This is evident because the elderly work as much as 65.24% as the head of the household, while 34.76 as other household members.

Socio-Economic Factors that Influence Elderly Work Decisions

We used The Fit Model consists of the Omnibus Test of Model Coefficients and Hosmer and Lemeshow Test to test the influence of socio-economic factors to elderly work decisions. The Omnibus Test of Model Coefficients is used to determine the effect of independent variables on the dependent variable simultaneously. The Goodness of Fit Test Results on the Binary Logistic model are as follows:

Table 2. A test of Goodness of Fit

	Chi-square	df	Sig.
Omnibus Test of Model Coefficients	425,803	12	0,000
Hosmer and Lemeshow Test	10,304	8	0,244

Source : Author's calculation

Table 2 shows the chi-square value of the Omnibus Test of Model Coefficients of 425.803 with a significant probability of 0.000 or less than α (5%), which means that the addition of independent variables can have a real influence on the model, or in other words, the model is declared fit. So, the independent variables in the model simultaneously have a significant effect on the dependent variable. The Hosmer and Lemeshow Test test show the chi-square table value for df 8 at the 5% significance level is 15.507. The chi-square Hosmer and Lemeshow value of 10.304 are less than the table chi-square value of 15.507 and the significance value is 0.244 or greater than α (5%) so that it can be concluded that the model can be accepted and hypothesis testing can be done. Furthermore, Table 3 it will measure the accuracy of the model in predicting the likelihood of the elderly deciding to work or not work. Classification Table is used to classify samples that can be predicted by the model correctly.

Tabel 3.Classification Table

Observed		Predicted		
		Work decision not working	working	Percent
Work decision	not working	471	339	58,1
	working	229	867	79,1
Percent				70,2

Source : Author's calculation

Table 3 shows that out of 810 elderly people who decided not to work, there were 471 elderly who could be predicted correctly by the model. Then, of the 1.096 elderly

people who decided to work, there were 867 elderly who could be predicted correctly by the model. So, out of 1.906 elderly people listed in the 2016 Susenas raw data, 1.338 elderly people can be correctly predicted by the model. Thus, as many as 73.8% of the elderly population can be predicted by the model appropriately.

The results of the partial test parameter estimation in binary logit analysis can be seen in table 4 Variable in Equation. This test was conducted to determine the effect of the significance of independent variables partially on the decision of the elderly to work / not work. The results of the partial test parameter estimation are presented in Table 4 below.

Table 4. Model Parameter Estimation

Variable	B	S.E	Wald	Df	Sig	Odds Ratio	Information
JK	-0,150	0,147	1,039	1	0,308	0,861	Gender
TP1	0,413	0,127	10,641	1	0,001	1,512	Basic edu
TP2	-0,436	0,224	3,780	1	0,052	0,647	Intermediate edu
TP3	-0,240	0,260	0,852	1	0,356	0,787	High edu
HS	-0,063	0,010	42,469	1	0,000	0,939	Duration of illness
RI	-0,537	0,189	8,075	1	0,004	0,584	Hospitalized
SK	1,233	0,125	96,631	1	0,000	3,433	Marital status
SDR	1,088	0,146	55,642	1	0,000	2,970	Houshold status
BT	-0,096	0,037	6,886	1	0,009	0,909	Dependent burden
LTT	-0,997	0,115	75,434	1	0,000	0,369	Living location
JP	-0,820	0,160	26,261	1	0,000	0,440	Pension guarantee
LN_PRT	0,058	0,085	0,456	1	0,500	1,059	Household exp
Constant	-0,673	1,155	0,340	1	0,560	0,510	

Source : Author's calculation

Based on the results of binary logit regression using the SPSS analysis tool, it was found that there were socio-economic factors that influenced the decision of the Special Region of Yogyakarta elderly to work. These factors include education, health, household status, acceptance of pension guarantees, and the location of residence.

Gender has no significant effect on the decision of the elderly to work. Although it has an insignificant effect, gender has a negative direction, which means that older men have a lower probability of working than female. Insignificant influence can be seen from the percentage of elderly people who choose to work between men and women who have a not too large difference. The results of the study are different from those of Ling & Fernandez (2010) which mentions that older men have a 7.48% higher probability of deciding to work compared to female. Elderly women tend to leave the labor market earlier than male elderly Simanjuntak (1998) states that older men prefer to work because they are the main breadwinners who have responsibility for their families, in contrast to elderly women who prefer to take care of the household at home. Elderly in the Special Region of Yogyakarta who decided to work consisted of male elderly by 51.73% and female elderly by 48.27%. These results indicate that the participation of elderly people in the Special Region of Yogyakarta does not occur inequality between men or elderly

women. Meanwhile, the decision not to work, between elderly men and elderly women has a large difference. Of the total elderly who do not work, elderly women have a greater percentage of 66.50%, while the elderly in men 33.95%.

Elderly women who are still active in work are dominated by the elderly who live alone and do not have children or husband. This condition forced the elderly women to become their own household heads and had to work to fulfill their needs. Elderly women who only live alone and decide to work at 17.76%. This number is greater than the elderly men who live alone in elderly households who decide to work, which is 3.88% of the total male elderly workers. On the other hand, the elderly men who mostly decided to work were the elderly who lived with his wife but did not have children in the household with a percentage of 37.57%.

Each level of education consisting of primary, secondary, and high education gives different influences. At the level of basic education has a significant positive effect on the decision of the elderly to work. Elderly people with a history of basic education have a greater probability than the elderly with education other than basic education. On the other hand, secondary and high education has a negative effect, but the effect is not significant on the decision of the elderly to choose to work.

The high employment participation of low-educated elderly people is different from the research of Kalwij & Vermeulen, (2005) in Europe. The higher the elderly education, the higher the likelihood that the elderly to work. In elderly women, education has a greater role in reducing work participation than the elderly male population. Giles, et al (2011) added that awareness of the positive influence of a high level of education on elderly work participation depends on government policies to improve the welfare of elderly workers.

The results of the study also contradict with the research by Junaidi, et al (2017), the elderly who have graduated from elementary school have no significant effect on the involvement of elderly Jambi Province in the labor market. Conversely, at the junior and senior high school/high education level it has a significant influence on the work participation of the elderly. However, the influence of the elderly who have a higher education than elementary school, namely junior high school, senior high school/high education has a lower probability of working than elderly elementary school education or in other words a negative effect. Then, elderly junior high school education has a higher probability than senior high school/high education. A good education will also provide good human resources. So, the elderly who have a better education history when they are of productive age already have better jobs that can encourage them to get social security as savings for their living needs when they enter old age and decide not to work. This shows that the higher the level of education, encouraging the elderly to be inactive in the labor market and in accordance with the conditions in the Special Region of Yogyakarta in 2016.

ANALYSIS OF WORKING DECISION OF ELDERLY IN YOGYAKARTA PROVINCE

The last level of education that was mostly completed by the elderly in the Special Region of Yogyakarta was basic education (graduating from elementary/junior high school). Older workers with basic education amounted to 66.67%, while 33.33% decided not to work. Older workers with low levels of education are dominated by workers in the agricultural sector. This is because the agricultural sector does not require conditions such as age or level of education/skills, such as education, health, finance, and event industry. The second-largest elderly business sector is the trade sector. Like the agricultural sector, the trade sector does not require a high level of education. Moreover, the Special Region of Yogyakarta is an area that is one of the tourist destinations that can develop the trade sector such as labor. This condition will make it easier for the elderly to enter the labor market because of relatively more employment opportunities.

Sumarsono (2015) revealed that health has the most important role in the work participation of the elderly. Health conditions that consist of the number of duration of illness and history of hospitalization have a significant negative effect on the work decisions of the elderly in the Special Region of Yogyakarta. For elderly people who have more than 1 day of duration of illness, the possibility of working will decrease by 0.939 times. Meanwhile, for the elderly who have been hospitalized in the past month the possibility of working will decrease by 0.584 times. The elderly of the Special Region of Yogyakarta who has experienced illness in the past month is only 8.55% of the total elderly population. This means that the elderly, almost 92% of elderly health conditions are classified as good. Andini, et al (2013) found that the number of duration of illness increasingly encourages the elderly to not work. Older workers who did not experience illness in the past week were 60.44%. While the remaining 36.26% experience pain for 1-3 days and 3.30% experience pain for 4-7 days. On the other hand, the elderly who did not work and experienced illness in the past week were 48.98%, and 18.37% experienced illness for 4-7 days.

Then in the history of hospitalization in the last month consistent with Yori & Bachtiar (2017) research on elderly job offers in Padang City. Elderly health is measured by elderly health complaints or not hospitalized. Older workers who have been hospitalized, 100% decide to work part-time. Meanwhile, 56.4% of elderly workers who had never been hospitalized chose to work full time or 12.8% more than the elderly workers who chose to work part-time.The decision of the elderly to keep working is inseparable from the housing conditions, both in terms of marital status and status as head of the household. The results of research in the Special Region of Yogyakarta show that marital status has a significant positive effect on the decision to work. Elderly people with marital status have a greater probability of 3,433 times compared to elderly with a status other than marital status. This can be seen in the 2016 Susenas data that the elderly who are still working, amounting to 71.35% have a partner. Meanwhile, the elderly who decide to retire at 53.47% is in a status other than marrying like a divorce or have never married.

This result is in line with Utami's (2017) study which states that older people are married more than older people who are married but married. Elderly people with married/still having a partner have a 5.7% higher tendency to work. This statement is

supported by Kalwij & Vermeulen (2005), that marital status in European countries such as Denmark and Sweden has a positive influence on male elderly to work. Meanwhile, for elderly women, marital status has a negative effect on work participation. Kartika & Sudibia (2014), stated that the pattern of marital status of elderly men is different from that of women. Elderly women who have divorced status have lost their husbands as support for the family economy. This condition forced elderly women to work so that they could meet their daily needs. in the Special Region of Yogyakarta amounted to 77.07% of elderly people other than married were elderly women.

Marital status is closely related to the status of the elderly in the household. The status of the Special Region of Yogyakarta's elderly as the head of the household has a significant positive effect on the decision to work. Elderly people who have the status of head of the household have a probability to work at 2.970 times greater than those who are in the status of other than as head of the household. Elderly workers in the Special Region of Yogyakarta are dominated by the elderly with the status of the household head at 65.24%. Meanwhile, the elderly who decide to retire more in the elderly who are in addition to the head of the household.

The results of the study is consistent with Junaidi, et al (2017) that the elderly who have the status of head of the household has a probability of 3.604 times more to work than the elderly who are in addition to the head of the household. Kalwij & Vermeulen (2005) added, in the household, there is a collaboration between husband and wife. Elderly men who as husbands and have children are more likely to work than older women. Elderly men still decide to work because of their duties as head of the household. Then, Ruhm (1996), the strongest influence on elderly women is greater for not working because of household factors than men who are husband or household head because of economic factors. The decree illustrates that economic matters are more important for elderly men because of being the head of the household, while household matters are more important for elderly women.

The next factor in the household is the burden of dependents. The burden of dependents can be in the form of the number of children or all people in the household. Based on the results of binary logit regression, the burden of dependence has a significant negative effect on the work decisions of the Special Region of Yogyakarta's elderly in 2016. Elders who have more than 1 person dependency are likely not to work at 0.909 times. On the contrary, elderly people who have less than 1 person are likely to decide to work/retire. The elderly in the Special Region of Yogyakarta who decides to work on average has a dependent burden of 3 people or fewer than the elderly who do not work, who have an average responsibility of 4 people.

The results of the study stated that the burden of dependence had a negative effect is consistent with the study of Ling & Fernandez (2010). Elderly people have more than 1 child, the probability of working is 2.6% lower. However, this relationship is insignificant because of the possibility of damage to the extended family system which reduces the dependence of the elderly on their children. According to Ling & Fernandez (2010), when the population enters old age, they already have children who are mature

and independent in meeting their needs. Then the child will help the life needs of parents who are elderly who cause their parents to prefer retirement/not working.

Unlike the research of Kartika & Sudibia (2014) and Affandi (2009) which states that dependency burden has a positive influence on the work participation of the elderly. The reason for low economic health causes the elderly to continue working to support themselves and not a few of them also support families who live together in disadvantaged families. However, the dependency burden does not affect the work participation of the elderly according to Yori & Bachtiar (2017) and Utami & Rustariyuni (2016). This is because someone who has entered old age already has children who majority already have a job so that the elderly do not need to win and support their children.

Based on the Susenas data of Special Region of Yogyakarta in 2016, the elderly who lived alone in their household were 57.28% with employment status and the remaining 42.72% chose retirement. Meanwhile, the elderly who only live alone with their partners and do not have children or their children already have their own households, who decide to work for 89.03%. This means that the number of members in the elderly household is increasingly encouraging the elderly to keep working because there is nothing that can support the living needs of the elderly. Conversely, the increasing number of household members encourages the elderly not to work assuming their children help with the needs of their elderly parents.

The decision of the elderly to choose to work is influenced by different places of residence between the elderly who live in rural and urban areas. Special Region of Yogyakarta's elderly living in urban areas has a negative and significant influence, meaning that elderly people living in urban areas are likely to work 0.369 times. Conversely, the elderly who live in rural areas have the possibility to work more. Of the total elderly population who choose to work, 51% live in rural areas and 49% in urban areas. Meanwhile, of the total elderly who decide to retire, 30.74% live in rural areas and 69.26% live in urban areas.

The tendency of the elderly to work was mostly done by elderly people living in rural areas. Elderly people living in rural areas are likely to work 10.7% higher than those living in urban areas. According to Simanjuntak (1998), work participation in rural areas is always higher than in urban areas. Residents in urban areas are faced with a choice of work on certain characteristics that only work in a particular person according to the classification required. Conversely, in rural areas with traditional employment patterns, the work participation of the population is increasing. Giles, et al (2001) states rural elderly people tend to continue working compared to the elderly in urban areas with a majority of highly educated, relatively high accumulation of wealth, and types of work that set a normal limit for retirement age. There is a reason that the probability of rural elderly is still working, namely the lower level of welfare of elderly families due to the absence of a pension guarantee or savings or investment for old age which causes the elderly to be forced to work to meet the family's living needs. In addition, because employment opportunities in rural areas such as the agricultural sector are relatively more

and easily accessible because they do not require certain educational requirements compared to urban jobs (Junaidi, et al 2017).

With the work participation of the elderly, pension guarantee ownership can also influence the decision of the elderly to decide to work or retire. Pension insurance in this study has a significant negative effect on elderly work decisions. Elderly people who have a pension guarantee are likely to decide to work down by as much as 0.440 times more than the elderly who do not have. Of the total elderly in the Special Region of Yogyakarta who has a pension guarantee, 39.02% decide to work and the rest decide to retire. The results of the study are consistent with Utami & Rustariyuni (2016). Elderly people who do not get old-age benefits have a probability of 6.20% greater for work. The presence or absence of old-age benefits is a factor that directly affects the elderly population still working. Andini, et al (2013) added that elderly people who continue to work more in the informal sector, such as agriculture, have difficulty receiving access to pension insurance. In this study, elderly workers were dominated by the elderly who worked in the agricultural sector at 63.50%. In addition, the relatively large economic needs of the elderly may also be due to a lack of adequate socio-economic security (Affandi, 2009).

The economic factor used in this study is the expenditure of elderly households. According to Simanjuntak (1998), the high or low household expenditure reflects the level of household income. Expenditures of elderly households have a positive effect on the work decisions of elderly people in the Special Region of Yogyakarta in 2016. Elderly people with higher household expenditure are likely to decide to work 1.059 times more than the elderly with fewer household expenses.

Although the effect is not significant, the factors of household expenditure are positive, such as the study of Ling & Fernandez (2010). Elderly people with a low cost of living are 41% less likely to participate in the labor market. While the elderly who have high living costs are likely to be 73% more likely to participate in the labor market. The higher the level of living costs, the greater the need for the elderly to work.

However, this condition is inversely proportional to the elderly in the Special Region of Yogyakarta. The average expenditure of elderly households in the Special Region of Yogyakarta is Rp.2,934,000/month. In the elderly who decide to work, the average household expenditure is Rp.2,629,100/month or less than the average expenditure of elderly households in the Special Region of Yogyakarta in 2016. Meanwhile, the elderly who decide not to work have an average household expenditure of Rp3,346,700/month or greater than the average expenditure of elderly households in the Special Region of Yogyakarta in 2016. High expenditure illustrates the level of wealth in the form of household income is relatively high, so it has a guarantee to meet the economic needs of the household.

Ling & Fernandez (2010) stated he size of the number of elderly households also depends on the number of elderly household members. This is seen in elderly households in the Special Region of Yogyakarta. Elderly households that have the most household members are 11 people who have spent around IDR 6-7 million. While the elderly who only live alone or even only 2 people in the household have a household expenditure of less than IDR 1 million. So, more and more people in elderly households encourage the

increase in household expenditure. It can be concluded that the high or low expenditure of elderly households does not affect the behavior of the elderly to decide to work or retire. So, the reason for the elderly in the Special Region of Yogyakarta decided to work not based on economic factors such as elderly household expenses.

5. CONCLUSION

The Elderly in the Special Region of Yogyakarta decided to work the most in Gunungkidul Regency and at least in Yogyakarta City. Older workers are more dominant in the agricultural sector, then followed by the trade sector. The position of the elderly job is more as a business owner assisted by temporary workers and at least as workers. In the division of working hours, many elderly workers work full time rather than par time.

The decision of the elderly to work is influenced by several social and economic factors. The level of basic education, marital status, and the status of the elderly as the head of the household had a significant positive effect on the work decision of the elderly in the Special Region of Yogyakarta in 2016. On the other hand, the number of duration of illness, history of hospitalization, dependency burden, location of residence, and pension insurance had a negative effect significant. Whereas, gender, secondary and high education level, and household expenditure did not have a significant effect on the work decision of Special Region of Yogyakarta's elderly in 2016.

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