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Research Article

Factors Impact Elderly People Participate on the Labour Market in Central Sulawesi Province

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Abstract

This study aims to identify the factors affect the elderly people (60 years and over) participate on the labor market in Central Sulawesi Province. The sample of this study is based on the number of Sakernas respondents in the August 2017 period in Central Sulawesi. The purposive sample of this study focus on aged of 60 and over with the total 1.192 people. Multiple logistic regression approaches were carried out to analyse the data. Logistic regression is one of the nonparametric statistical methods for testing hypotheses and describes the relationship between one or more independent variables and one dichotomous dependent variable. The results showed that the reasons of the elderly to enter the labor market was that they were male, married, breadwinner, uneducated and living in rural areas. Meanwhile, the relationship between age and work participation is negative. It means that the elder people the opportunity for the elderly to enter the labor market has also been decreased.

Keywords: elderly people; labour Participation

Introduction

The phenomenon of an increase in the number of elderly people occurs in almost all of the world due to the quality of life, advances in medical technology and modern health services. Aging population, as an important development trend in the 21st century has broad implications for all aspects of social, economic, health, and even political life. Globally, there were 2 people who repeat their 60th birthday every second in 2012, and there was 1 in 9 people who has 60 years of age or older. In 2012, only Japan had an elderly population (elderly) of more than 30 percent. In 2050, it is projected that it will be 1 in 5 people who has this level of age and it is estimated that 64 countries will have aging population of more than 30 percent (Hartono, 2012).

Indonesia, similar to other countries in the Asia Pacific region, will experience population aging very quickly. In 2012 Indonesia was the third Asian country with the largest absolute population of over 60 years, namely after China (200 million), India (100 million) and following Indonesia (25 million). In fact, it is estimated that Indonesia will reach 100 million elderly people in 2050 (Abikusno, 2013). Based on data from the Central Statistics Agency (BPS), the elderly population in Indonesia in 2000 was recorded at 14,439,967 people (or around 7.18 percent of the total population), then increased to 23,992,553 people (9.77 percent) in 2010, and predicted to reach 28,822,879 people (11.34 percent) in 2020.

The data of Central Sulawesi Province show that the elderly population amounted to 48,710 people (4.17 percent) in 1980 to 64,286 people (4.52 percent) in 1990. The following year, it reached to 100,291 people (4.98 percent) in 2000, to 174,900 people (6, 6 percent) in 2010 and became 200,121 people (6.96 percent) in 2015 (BPS, 2016).

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The condition of the elderly in Indonesia has not received adequate attention, marked by 2,426,191 people (15 percent) displaced, and as many as 4,658,279 people (28.8 percent) prone to abandonment. At the rural and urban level, the number of elderly people who have not / never attended school is 35.53 percent (BPS-Susenas 2006). Suweno (2014), revealing that from an estimated 19 million elderly people in 2014, 2.8 million elderly people were disadvantaged or were below the poverty line and 2.2 million people in the category of poor vulnerable. Correspondingly, 2014 Susenas records the economic status of elderly households as measured by per capita expenditure, estimated at 46.33 percent occupying the lowest household economic status, even 11.98 percent of living in a house is almost uninhabitable and 5.51 percent of households do not livable (BPS, 2015).

The condition of the elderly with various problems, they work to be able to survive in an effort to meet the demands of life and meet the needs of the family who are dependent. Sukamdani et al. (2000) found that more than half (65 percent) of 140 elderly respondents still work because they have to do it to earn a living. The situation is similar to Central Sulawesi, according to the results of the 2010 population census, the proportion of elderly people in Central Sulawesi who were stayed to work for around 53.54 percent. Based on gender, the percentage of elderly men who were stayed to work (74.13 percent) was almost twice as high as female seniors (33.07 percent). This condition occured both in urban and rural areas (BPS, 2011).

Wirakartakusumah and Anwar (1994) say that there are at least three reasons that affect the elderly to enter the labor market. Firstly, there are still many elderly people who remain physically and mentally strong so there is no reason to leave the labor market. Secondly, the elderly participation into the labor market due to economic pressure. Thirdly, reasons that are not based on economic motives, but rather based on self-actualization or emotional motives. Similarly, the results of a study conducted by the National Commission on Elderly in 2008 was found that the most common reason for older people still working because of an insufficient economy. The following reason, they wanted to remain active and independent, while the reason for the elderly not working was due to deteriorating health (BPS, 2010). Therefore, this study aims to examine the factors that influence the elderly people to enter the labor market in Central Sulawesi.

Literature Review

Understanding of the Elderly

Three aspects that need to be considered in providing restrictions on the elderly population, namely: biological aspects, economic aspects and social aspects (Pandji, 2012). Biologically, the elderly population is a population that experiences an aging process continuously, which is characterized by a decrease in physical endurance, namely the more vulnerable to attacks of diseases that can cause death. This occurs due to changes in the structure and function of cells, tissues and organ systems. Economically, the elderly population is seen as a burden rather than a resource. Some even think that old life no longer provides many benefits, and some even perceive it as a burden on families and communities.

According to the Republic of Indonesia Law, Number 13 of 1998 about elderly welfare. The chapter one, article 1, points 2, 3 and 4 expalin that:

1) Elderly people is someone who has reached the age of 60 (sixty years) and above.

2) Potential aging is the elderly who have ablity to work and activities or produce goods or services.

3) Elderly is not potential is the elderly who are powerless to make a living so that their lives depend on the help of others.

Elderly Work Participation

One factor that influences a person to enter the labor market is age. There are many findings that when a person enters the elderly, it is naturally time for economic activities to decrease. Bellante and Jackson (1990) in the United States using time series data in 1947 - 1979 found that the male labor force participation in the 55-66 year age group decreased. The same thing is noted by Simanjuntak (1985) that when reaching a certain age a person reduces his supply to the job market. This is, because the older a person is, the ability to move and the ability to work will decrease, and tend to decide not to work or retire.

According to Fougere et al. (2007) and Zaidi and Zolyomi (2011), the increasing age of a person or before entering the elderly, the time allocated to work is also less. This is reinforced by Wang (2010) in his review of pensions that the higher a person's age, the tendency to not work and retire, is due to the reduced ability and physical endurance of the elderly, much reduced energy which is not like at a young age, and cognitive abilities of elderly individuals who are increasingly obsolete / diminished with age. So the older the elderly population, the greater the probability of not working (Kalwij and Vermeulen 2005; Ramey and Francis, 2009; Giles et al., 2011; Febriani, 2013).

Factors that influence the elderly to enter the labor market are gender, marital status, family head status, domicile and level of education. The work participation of the male population is always higher than female, both for the productive age group and the elderly population group. Marking older men having a greater probability of working in the elderly. Conversely, elderly women tend not to work. According to (Simanjuntak, 1985), men have duties and obligations as the breadwinner of the family compared to women. Male population is considered as the main

breadwinner for the family because of the greater responsibility for the family. In addition, women's labor participation patterns are influenced by decisions in the household after marriage. As the result, women are encouraging to take care of the household. Then, the dominance of male workers is still higher than the female elderly workers (Affandi, 2009). Some researchers found the same result included Kalwij and Vermeulen (2005); Zaidi and Zolyomi (2011); Febriani, (2013).

Furthermore, there is a positive relationship between marital status and the desire of the elderly to continue working (Andini, et al 2013). Married status shows the tendency to continue working compared to the elderly who are not married, divorced or divorced. According to BPS (2015) in elderly population Statistics, the results of a national economic survey found that the majority of elderly people who work had married. They had accounted for 74.98 percent of the total of elderly people.

In addition, the elderly people who have status as the head of the household have a greater probability of working in the elderly. Whereas the elderly population who are family members have a tendency not to work (Affandi, 2009). According to BPS (2015) that there are still many elderly people who are household heads (61.69 percent) and become the backbone of the family. The head of the household is the person who is responsible for meeting the daily needs of the household. The position of the head of the household is very important in determining household continuity. Besides being economically responsible for meeting the needs of all family members, the head of the household also acts as a decision maker. The responsibility of the head of the household that is very large in terms of psychological and economical, apparently still carried out by the elderly population who should enjoy old age without a heavy burden (Indonesian Ministry of Health, 2013). The reason for this, the elderly population with the status of head of the household has a role and responsibility in fulfilling their family's living needs. It also indicates that there is a family burden that encourages the elderly as the head of the household to continue working in old age (Andini et al., 2013). So, the greater the probability of the elderly population to work in old age is influenced by the position in the household.

Elderly people in the countryside have a high probability of working compared to the elderly population in the city. This is based on several factors such as different work characteristics between rural and urban areas, different cultures, and the presence or absence of pension policies in rural and urban areas affects the tendency of the elderly population to work or not work. Simanjuntak (1985) reveals that work participation by area of residence, rural areas are always higher than urban areas. Residents in urban areas are faced with the choice of working or not working, and certain work characteristics in urban areas are only done by a certain person in accordance with the classification or provisions in the work. In contrast, rural residents with traditional employment patterns make rural work participation relatively higher. This finding is similar to Giles et al. (2011), in a study comparing China with several other countries, the elderly population in rural areas tend to continue to work in their old age compared to elderly people in urban areas. The majority of them have high level of education, relatively high accumulation of wealth, and the type of work that sets a normal limit for retirement age to not work again in their old age.

According to Becker (1975) and Simanjuntak (1985) the basic assumptions of human capital theory that individuals can increase their income through increased education. Education is seen as an investment whose rewards can be obtained over a period of time in the form of increased work income. The higher a person's education or the longer the time of study has a significant impact on obtaining high income (Becker, 1975). According to Auer and Fortuny (2000), high level of income affects people out of the labor market. This confirms the findings of Giles et al., (2011) that the period of study time has negatively affects on the level of participation of elderly workers. The high level of education reflects the accumulation of household wealth and lifetime income (retirement benefits) is relatively high. With high education level, they have a greater probability of not working. The same finding by Affandi (2009) that the level of education of elderly people has a negative impact on the work participation.

Research Method

This study uses a quantitative approach with a cross-section design design. The place of research was conducted in Central Sulawesi Province in Indonesia. The data are obtained from the results of the National Labor Force Survey (SAKERNAS) in the period of August 2017. Data used in the form of micro data from the Sakernas period of August 2017 by BPS so that the entire sampling process consisting of a sample adequacy framework. The representation of the sample and the selection of the region relies fully on the 2017 Sakernas sampling technique carried out by BPS. The number of selected sakernas samples was 10,939 people. The proportion of elderly (population 60 years of age and over) from the total sample of 10.89 percent or as many as 1,192 people. The sample in this study is the elderly population or population 60 years and over who were participated in the national labor force survey (Sakernas) for the period of August 2017 as many as 1,192 people.

Multiple logistic regression approaches were carried out to analyse the data. Logistic regression is one of the nonparametric statistical methods for testing hypotheses. Logistic regression method is a mathematical method that

describes the relationship between one or more independent variables and one dichotomous dependent variable whose variables are considered to have only two possible values, namely 0 and 1 (Hosmer, 2000).

If there are known p independent variables, then it can be shown with a vector:

$$\mathbf{X' = (X_1, X_2, \ldots\ldots, Xp\ )}$$

It is assumed that some variables are interval scale, so the probability can be written with:

$$\mathbf{P(Y=1|X) = \pi(X)}$$

Multiple logistic regression models are as follows:

$$\mathbf{g(x) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots.. + \beta p Xp}$$

The logistic regression model built in this study is as follows:

$$\mathbf{A_{Elderly\ age} = \beta_0 + \beta_1 Age + \beta_2 D_{Gend} + \beta_3 D_{Mts} + \beta_4 D_{Sth} + \beta_5 D_{Dom} + \beta_6 D_{Edu} + \mathcal{E}}$$

Information:

β_0	= Constant
β_1, β_2, β_3, β_4, β_5, β_6	= Regression coefficient
A_{Ewp}	= Elderly work participation
Age	= Elderly age
D_{Gend}	= Sex
D_{Mts}	= Marital status
D_{Sth}	= Status of the head of the household
D_{Dom}	= Elderly residence
D_{Edu}	= School participation

The dependent variable symbolized by A_{Ewp} is the involvement of the elderly in economic activities which, at the time of the survey, worked at least one hour continuously a week ago, in the form of categorical: 1 if working and 0 if not working. Independent variables consist of: age, sex, marital status, domicile household head status and elderly education. Elderly age is calculated based on the birthday at the time of interview (ratio scale). Other independent variables are dummy variables. Gender: 0 = female and 1 = male; marital status: 0 = not married + divorce and 1 = married; status of head of household: 0 = family member and 1 = head of household; domicile: 0 = rural and 1 = urban; and school participation that is distinguished between elderly who have never been to school and senior citizens of school: 0 = no school and 1 = school.

Results and Discussion

Characteristics of Respondents

Some characteristics of the elderly population, the results of data analysis are shown in Table 1. There were 1.192 elderly people who were selected as the sample of this study. They were accounted for 48.07 percent (573 people) were elderly men and 51.93 percent (619 people) were elderly women. Based on the level of age group, the group of the 60-64 years of age is 40.10 percent, the 65-69 years of age is 24.83 percent, the 70-74 years of age is 16.36 percent and the age group of 75 years and over accounted for 18.71 percent. The percentage of the elderly people who were living in rural areas around 69.97 percent and 30.03 percent of them were living in urban areas.

Furthermore, it can be seen that various characteristics of the elderly work. The results of data processing found 563 people (47.23 percent) elderly people who were still working and the remaining 629 people (52.77 percent) did not work anymore. The number of elderly people who are still working in line with the research of Sukamdani et al. (2000); Affandi, (2009); Febriani, (2013) and Andini et al. (2013). Based on the group of age, the higher level of the elderly age, the percentage of those who work were also decreased, namely the age group 60-64 years 49.73 percent, groups 65-69 years 29.13 percent, group 70-74 years 11.55 percent and groups 75 years or more than 9.59 percent.

The percentage of elderly men who work larger than elderly women, which is 63.63 percent compared to 34.64 percent. Also occurs for marital status and the status of household heads with percentages of 72.29 percent and 75.81 percent respectively. While the percentage of elderly in rural areas amounted to 69.97 percent compared to 30.03 percent in urban areas.

Multiple Logistic Regression Results

Multiple logistic regression models produce estimates presented in Table-2. The estimation results show that all variables have an influence on the participation of the elderly population in the labor market. The age of the elderly population plays an important role in determining the supply of elderly workers. The high level of elderly people provides less opportunity to participate in the labor market. This trend is shown by the logistic regression coefficient of -0.088 and a significant value of 0.000 (<0.01). The level of age drives them to leave the job market because getting older means physical conditions are also decreasing. This finding is similar to Bellante and Jackson (1990); Simanjuntak (1985); Alfrida (1996); and Sumarsono (2003).

Gender variables explain that older men are more likely to enter the labor market than female seniors. Table-1 shows that 63.22 percent of male elderly people still work and only 31.50 percent of female elderly work. This result is

strengthened by the logistic regression coefficient of 0.816 and the significant value of 0.000 (<0.01). In line with the findings (Affandi, 2009); Kalwij and Vermeulen (2005); Zaidi and Zolyomi (2011); Febriani, (2013). Marital status and the status of the head of the household also influence the decision to enter the labor market. Table-1 shows that older people with marital status and the status of more household heads enter the labor market. These results are reinforced by logistic regression coefficients and significant values of 0.669 and significant values of 0.000 (<0.01), respectively, for marital status; and 0.686 and a significant value of 0.000 (<0.01) for the status of the head of the family. This result is also consistent with the findings of Andini et al. (2013).

Both domicile and school participation have a negative impact on the decision to enter the work place with the logistic regression coefficient values of -0.395 and -0.274. Significant domicile for $\alpha = 0.01$ with a significant value of 0.005 (<0.01) and significant school participation for $\alpha = 0.05$ with a significant value of 0.033 (<0.05). This result means that there is a tendency for elderly people who enter the labor market to live in rural areas and never enter school. This result is in line with the findings of Giles et al., (2011).

Table 1: Description of Respondents Based on The WorkParticipation (60+)

	Not Working		Working		Total	
	People	Percent	People	Percent	People	Percent
Age						
60 – 64	198	31,48	280	49,73	478	40,10
65 – 69	132	20,99	164	29,13	296	24,83
70 – 74	130	20,67	65	11,55	195	16,36
75 +	169	26,87	54	9,59	223	18,71
Gender						
Male	205	32,59	368	65,36	573	48,07
Female	424	67,41	195	34,64	619	51,93
Marital Status						
Single	10	1,59	9	1,60	19	1,59
Marry	290	46,10	407	72,29	697	58,47
Divorced	19	3,02	10	1,78	29	2,43
Death Divorce	310	49,28	137	24,33	447	37,50
Family Head Status						
Family Members	312	49,60	141	24,19	453	38,00
Head of Family	317	50,40	442	75,81	739	62,00
Domicile						
Rural	421	66,93	413	73,36	834	69,97
Urban	208	33,07	150	26,64	358	30,03
Education						
Not in school + not graduated from elementary school	274	43,56	220	39,08	494	41,44
Graduated from elementary and primary	262	41,65	283	50,27	545	45,72
Graduated from High School/College	69	10,97	45	7,99	114	9,57
University	24	3,82	15	2,66	39	3,27
Total	629	100,00	563	100,00	1192	100,00

Table 2.: Results of Calculation of Logistic Regression Coefficients

	B	**S.E.**	**Wald**	**Df**	**Sig.**	**Exp(B)**
Age	-.088	.011	67.654	1	.000	.916
Gender	.816	.171	22.814	1	.000	2.262
Marital status	.669	.149	20.099	1	.000	1.951
Family head status	.686	.168	16.638	1	.000	1.987
Domicile	-.395	.142	7.738	1	.005	.673
School participation	-.274	.129	4.539	1	.033	.760
Constant	5.530	.864	40.939	1	.000	252.256

a. Variable(s) entered on step 1: Age, Gen, Statkw, Statkrt, Dom, Edu.

Conclusion and Recommendation

The number of elderlies who entering the labor market in Central Sulawesi Province is almost half of with 47.23 percent. Most of them are elderly men with 65.36 percent and live in rural areas with 73.36 percent. This study found that there are thre variables that give a positive influence on the work participation of the elderly include gender, marital status and family head status. It means that the reasons of the elderly to enter the labor market because they are male, married, and have the status of head of household. While the other three variables that give negative influence are domicile, work participation and elderly age. It means that the reasons of the elderly who enter the labor market because they are living in rural areas and not attende in school, and the high level of age. The trend of elderly people enters the labor market decline despite the gap provides more opportunities for the elderly to participate. The high number of elderly people participating in the labor market needs the government attention to create suitable and decent job market conditions for elderly workers, for example, regulating the flexibility of working hours and workplaces and special forms of work for the elderly. In developed countries, older people who still want to work are employed as social workers. This study does not involve variables of social security and family economic support because the limitations of the Sakernas data in August 2017 period of survey. Both of these variables are thought to have a large influence on the decision of the elderly to enter the labor market, and are the lack of this research. Further research should involve variables of social security and family economic support.

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