


**THE IMPACT OF COVID-19 PANDEMIC ON WORKING TIME ALLOCATION AND INCOME: A STUDY OF ELDERLY POPULATION IN INDONESIA**

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| ARTICLE INFO  | ABSTRACT  |
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| <p><b>Article history:</b></p> <p><b>Received</b> 31 March 2023</p> <p><b>Accepted</b> 27 June 2023</p>   | <p><b>Purpose:</b> This research aims to determine the impact of Covid-19 pandemic on working time allocation and income of elderly population in Indonesia.</p> <p><b>Design/methodology/approach:</b> The research uses a descriptive approach with a time series design using macro data issued by Central Bureau of Statistics for 2019 (before the Covid-19 pandemic) and 2021 (the Covid-19 pandemic).</p>  |
| <p><b>Keywords:</b></p> <p>Working Time Allocation;<br/>Income;<br/>Elderly Population;<br/>Pandemic Covid-19.</p> <div data-bbox="172 987 480 1234" style="text-align: center;">  </div> | <p><b>Findings:</b> The results showed more elderly (0.05 percent) enter to the labor market during the Covid-19 pandemic, but on other hand there was higher unemployment of 1.36 percent. There has been a decrease in average working time allocation from 2019 (before the Covid-19 pandemic) to 2021 (during the Covid-19 pandemic) by 2.34 hours per week. The research results also show a decrease in average income during the Covid-19 pandemic of IDR 220,000 per month.</p> <p><b>Research limitations/implications:</b> The workforce consist of young and old generation. This research limited to elderly and cannot examine young and more productive worker.</p> <p><b>Practical implications:</b> The policy of providing assistance in form of venture capital funds for elderly can be continued and expanded to support productive older people to be allowed to work at home.</p> <p><b>Social Implications:</b> The families and relatives of elderly should optimize economic support for elderly</p> <p><b>Originality/value:</b> The increase in number of elderly around the world due to good quality of life, advances in medical technology and modern health services. This is the first research that examine the time allocation and income of elderly after Covid 19.</p> <p>Doi: <a href="https://doi.org/10.26668/businessreview/2023.v8i7.1984">https://doi.org/10.26668/businessreview/2023.v8i7.1984</a></p> |

**O IMPACTO DA PANDEMIA DE COVID-19 NA ALOCAÇÃO DO TEMPO DE TRABALHO E NA RENDA: UM ESTUDO DA POPULAÇÃO IDOSA NA INDONÉSIA**

**RESUMO**

**Objetivo:** Esta pesquisa tem como objetivo determinar o impacto da pandemia de Covid-19 na alocação do tempo de trabalho e na renda da população idosa na Indonésia.

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**Projeto/metodologia/abordagem:** A pesquisa utiliza uma abordagem descritiva com um desenho de série temporal usando dados macro emitidos pelo Central Bureau of Statistics para 2019 (antes da pandemia de Covid-19) e 2021 (a pandemia de Covid-19).

**Conclusões:** Os resultados mostraram que mais idosos (0,05%) entraram no mercado de trabalho durante a pandemia de Covid-19, mas, por outro lado, houve maior desemprego de 1,36%. Houve uma redução na alocação média de tempo de trabalho de 2019 (antes da pandemia de Covid-19) para 2021 (durante a pandemia de Covid-19) de 2,34 horas por semana. Os resultados da pesquisa também mostram uma redução na renda média durante a pandemia de Covid-19 de IDR 220.000 por mês.

**Limitações/implicações da pesquisa:** A força de trabalho é composta por gerações jovens e idosas. Esta pesquisa se limitou aos idosos e não pode examinar trabalhadores jovens e mais produtivos.

**Implicações práticas:** A política de fornecimento de assistência na forma de fundos de capital de risco para idosos pode ser continuada e ampliada para apoiar os idosos produtivos e permitir que trabalhem em casa.

**Implicações sociais:** As famílias e os parentes dos idosos devem otimizar o apoio econômico aos idosos.

**Originalidade/valor:** O aumento do número de idosos em todo o mundo deve-se à boa qualidade de vida, aos avanços na tecnologia médica e aos modernos serviços de saúde. Esta é a primeira pesquisa que examina a alocação de tempo e a renda de idosos após a Covid-19.

**Palavras-chave:** Alocação do Tempo de Trabalho, Renda, População Idosa, Pandemia de Covid-19.

## EL IMPACTO DE LA PANDEMIA DE COVID-19 EN LA DISTRIBUCIÓN DEL TIEMPO DE TRABAJO Y LOS INGRESOS: UN ESTUDIO DE LA POBLACIÓN ANCIANA EN INDONESIA

### RESUMEN

**Objetivo:** Esta investigación pretende determinar el impacto de la pandemia de Covid-19 en la asignación del tiempo de trabajo y los ingresos de la población anciana de Indonesia.

**Diseño/metodología/enfoque:** La investigación utiliza un enfoque descriptivo con un diseño de series temporales utilizando macrodatos publicados por la Oficina Central de Estadística para 2019 (antes de la pandemia de Covid-19) y 2021 (la pandemia de Covid-19).

**Conclusiones:** Los resultados mostraron que más personas mayores (0,05%) entraron en el mercado laboral durante la pandemia de Covid-19, pero por otro lado, hubo un mayor desempleo del 1,36%. Se produjo una reducción de la asignación media de tiempo de trabajo entre 2019 (antes de la pandemia de Covid-19) y 2021 (durante la pandemia de Covid-19) de 2,34 horas semanales. Los resultados de la encuesta también muestran una reducción de los ingresos medios durante la pandemia de Covid-19 de 220.000 IDR al mes.

**Limitaciones/implicaciones de la investigación:** La mano de obra se compone de generaciones jóvenes y mayores. Esta investigación se limitó a los mayores y no puede examinar a los trabajadores jóvenes y más productivos.

**Implicaciones prácticas:** La política de proporcionar ayuda en forma de fondos de capital riesgo para los ancianos puede continuar y ampliarse para apoyar a los ancianos productivos y permitirles trabajar en casa.

**Implicaciones sociales:** Las familias y los parientes de los ancianos deberían optimizar el apoyo económico a los ancianos.

**Originalidad/valor:** El aumento del número de personas mayores en todo el mundo se debe a la buena calidad de vida, los avances de la tecnología médica y los modernos servicios sanitarios. Ésta es la primera investigación que examina la asignación del tiempo y los ingresos de las personas mayores después de Covid-19.

**Palabras clave:** Asignación del Tiempo de Trabajo, Ingresos, Población de Edad Avanzada, Pandemia Covid-19.

### INTRODUCTION

The increase in number of elderly around the world due to good quality of life, advances in medical technology and modern health services. Population aging, as the most important development trend in 21st century, has broad implications for all aspects of social, economic, health and political life. Two people had their 60th birthday every second in 2012, and one in 9 people was aged 60 or over; it is projected that one in 5 people in 2050. Japan had an elderly

population of more than 30 percent 2012, and it is estimated that there will be 64 countries in 2050(Hartono, 2013).

Indonesia in Asia Pacific Region is top three in terms of population. Indonesia in 2012 was the third Asian country with largest absolute population 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 in 2050 (Abikusno, 2013).

The population census in 2000 showed that elderly population in Indonesia was 14,439,967 people or around 7.18 percent of total population (BPS, 2002), increased to 28,270,293 people or 10.46 percent of population as a result of population census in 2020 (BPS, 2021a). According to Sakernas 2019 data, 49.39 percent of elderly population is actively working and their average income is IDR 1,650,000 per month. There are 46.22 percent working of elderly earn an income/wages/salary of less than one million per month. Female elderly workers earn less than male workers. There are around 61.44 percent of female elderly workers who earn less than one million per month and this percentage is much higher than male elderly workers of 37.05 percent (BPS, 2019).

Elderly population faced obstacles at work in the Covid-19 pandemic, which in turn affected their income. Physical distancing makes elderly difficult to access basic services such as health services, income and others. This social restriction increases the isolation of elderly which will have an impact to increase feelings of loneliness and depression (TNP2K, 2020). The elderly population faces challenges such as limitations in the work, disruption of daily activities, emotional disturbances due to self-isolation and vulnerability to transmission of covid-19 (Morrow-Howell et al., 2020; Susanto et al., 2022). Republika's records (2020) showed the pandemic also affected the social relations of elderly with other people around them, as well as reduced social support for them. The COVID-19 pandemic has also affected the employment conditions of elderly group. Many elderly lost their jobs. This is reflected in percentage of unemployed elderly who increased to 1.39 percent in August 2021 from 0.88 percent in same period at the previous year (BPS, 2021b). Parinding et al. (2021) found the same thing in Palu City, around 14.70 percent of elderly population leave the job market. Therefore, this study examines the lower working time allocation and income of elderly population during the Covid-19 pandemic.

## LITERATURE STUDY

### Covid-19 Definition

Corona virus or severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) attacks the respiratory system. The disease is caused by infection with called covid-19 virus.

The covid-19 infection can be classified as follows (Handayani et al., 2020):

1. Suspected cases, with following conditions: (a) Patients with acute respiratory distress (fever and at least one symptom of respiratory disease, such as cough, shortness of breath), and a history of traveling or living in an area reporting community transmission of covid -19 for 14 days before symptom onset; (b) Patients with acute respiratory distress and had contact with a confirmed or probable case of COVID-19 in last 14 days prior to onset; or (c) Patients with severe respiratory symptoms (fever and at least one symptom of respiratory disease, such as cough, shortness of breath and requiring hospitalization) and in absence of an alternative diagnosis that can fully explain clinical presentation.
2. Probable cases: (a) Suspected cases whose test results for Covid-19 are inconclusive, ; or (b) Suspected cases where the test results cannot be made for any reason.
3. Confirmed cases, namely patients with positive laboratory results for Covid-19 infection , regardless of presence or absence of clinical signs and symptoms.

### Concept of Elderly

Aging is a normal and natural process. Old age is a natural process that cannot be avoided and must be accepted as a fact and a biological phenomenon. Life moves with aging process which ends in death (Hutapea, 2005). Therefore this period is a critical period for spiritual development with issues related to end of life, such as death and the process (Nelson, 2009). Elderly is a unity of social and biological facts. As a social fact, aging is a process of withdrawing a person from various statuses in a social structure. The age increase can mean weakening human physical and health (Prayitno, 1999).

Law Number 13 on Elderly Welfare (R.I., 1998) defined elderly in Chapter I, Article 1, points 2, 3 and 4 below.

- 1) Elderly is someone who has reached the age of 60 sixty years and above; 2) Potential elderly are elderly who are still capable of doing work and/or activities to produce goods and/or

services; 3) Non-potential elderly are powerless elderly to make a living where their lives depend on others.

The age division benchmark by World Health Organization (2012) for elderly population are: 1) middle age group is between 45–59 years old; 2) elderly is between 60-74 years old; 3) old) is between 75 – 90 years old ; and 4) very old is above 90 years old.

### **Allocation for Older Working Time**

The aging is a natural process characterized by biological decline which causes a lower physical condition. The person will reduce various activities and change the allocation of time for work and other activities in according to their needs. Simanjuntak (1998) stated that age has a relationship with a person's responsibility for his labor supply. Within their productive age, higher age will have greater the responsibility, up to a certain point the supply will decrease with increasing age.

Fougère et al., (2009) findings was same in Canada. Data from Human Resources and Skills Development Canada – Policy Research and Coordination Directorate (HRSDC-PRCD) showed that the working time increased gradually in younger age group, and began to stabilize in 29–32 year age group until age group 49–52 years. After 52 years, working time decreases until it finally reaches zero. Adversely, allocation of leisure time is stable in age group of 29–32 years to age group of 49–52 years. The leisure time increases for above 52 years old.

Zaidi & Zolyomi (2011) researched European Union countries, using data from Harmonized European Time Use Survey (HETUS). They found that with increasing age will decrease working time and greater the time spent on personal care (eating, sleeping and others), housework (domestic work and others) and passive leisure (rest, watching television, listening to music and others). The decrease in time allocation for paid work began to occur at 55-64 years, 65-74 years and  $\geq 75$  years. This decline occurs as a result of increasing age which results in physical decline of elderly.

Zaidi & Zolyomi (2011) researched the European Labor Force Survey (LFS) for proportion of full-time workers according to sex and age group in 27 European Union countries in 2010. They found differences in proportion of full-time workers between sexes, age groups and between countries. The proportion of full-time workers on average in European Union peaks in 25–54 age group at 94.5 per cent for men and 70.2 per cent for women. The age group of 55–64 year showed a slight decline, the proportion of men full time work was 88.8 percent and for women it was 62.8 percent. The 65 years showed a sharp decline. The age group of 65–

74 years showed the proportion of men full time work was 53.6 percent and proportion of women full time work was 38.4 percent.

### **The Impact of Covid-19 on Socio-Economic Conditions**

Covid-19 has had a major effect on social and economic. Syaifudin (2020) found that covid-19 produce social disorganization and social dysfunction. Social disorganization is a manifestation of discrimination and prejudice in society. This discrimination and prejudice is caused by people's fear for the impact of spread of Covid-19. This happens from attitude of society to keeps distance when communicating with other people. Meanwhile, social dysfunction occurs when a person is unable to carry out social functions according to social status because of fear of Covid-19. These social disorganization and social dysfunction were real manifestation of social ills.

The Covid-19 has almost paralyzed the community's economy (Widarni, Bawono, 2023). The implementation of various government policies such as work from home, area restrictions, and closure of various public places has resulted in termination of employment and business closures for an unspecified period of time (PUSPENSOS, 2020). Azimah et al., (2020) found that Klaten and Wonogiri Markets showed a spike in price of goods, lower market economic activity and income of market traders by 50 percent compared to before the Covid-19 pandemic. BPS Jambi (2020) found that from 804 working respondents, 26.62 percent were temporarily laid off and 2.49 percent had just been laid off from their workplace. Their income has also decreased, 38.95 percent employee income had decreased and 53.27 percent for those who were at home.

The elderly population faces even more difficult challenges. Republika (2020) reported that covid-19 affects the social relations of elderly with other people around them and reduces social support for them. In addition, they also have limitations in entering the world of work because of their vulnerability to transmission of Covid-19 (Morrow-Howell et al., 2020). This fact makes the elderly vulnerable to economic shocks.

## **RESEARCH METHODS**

### **Research Design**

This study uses a descriptive approach with a time-series design. The data used is in form of macro data issued by BPS in 2019 before the co-19 pandemic and data for 2021 at time of outbreak of co-19 pandemic. The data in question is data that has been processed by BPS

from Sakernas data and Susana's data which includes the working time allocation for elderly population and income received by elderly both nationally and for each province. Age in study was grouped into three groups (Suyono, 2013), namely: (1) young elderly (60–69 years); (2) adult elderly (70–79 years); and (3) plenary elderly ( $\geq 80$  years).

### Method of Analysis

This study is descriptive analysis in form of graphs, frequency tables and cross tables of working time allocation and income of elderly. The descriptive analysis provides an overview of work time allocation and income for elderly before and during the Covid-19 pandemic.

## RESULTS AND DISCUSSION

### The Elderly Condition in Indonesia

Almost every country in world has a drastic increase in elderly population, both in number and proportion of total population, including Indonesia. National development creates an increase in quality of life and better nutritional intake, sanitary conditions, and economic conditions. Health facilities are increasingly adequate and affordable. These reduced the death rate and led to lengthening of human life. Population Census in 2020 showed the number of elderly in Indonesia is 26,414,766 people. Table 1 shows that female elderly residents is more than the elderly male population, namely 13,520,982 people or 54.39 percent compared to 12,714,784 people or 46.61 percent.

Table 1. Number of Elderly Population in Indonesia by Gender

| Age category | Male       | Female     | Total      |
|--------------|------------|------------|------------|
| 60 – 64      | 5,104,332  | 5,169,843  | 10,274,175 |
| 65 – 69      | 3,445,786  | 3,340,480  | 6,786,266  |
| 70 – 74      | 1,943,260  | 2,205,321  | 4,148,581  |
| 75+          | 2,221,406  | 2,805,338  | 5,205,744  |
| Grand total  | 12,714,784 | 13,520,982 | 26,414,766 |

Source: BPS, 2021 from Population Census 2020

The increase of elderly in last ten years has been almost 50 percent, while the increase in number of non-elderly was only 10 percent. The high increase in elderly is dominated by young elderly, aged between 60-69 years. The increase in number of people in this category reached more than 60 percent during the 2010-2020 period. The percentage of young elderly will reach almost two thirds of elderly in 2020. This percentage in 2020 has increased compared to 2010, while the percentage of young elderly and full elderly has decreased by 32.03 percent

and 7.92 percent, respectively. Higher life expectancy in Indonesia has led to an increase in elderly under 80 years old, as shown in table 2.

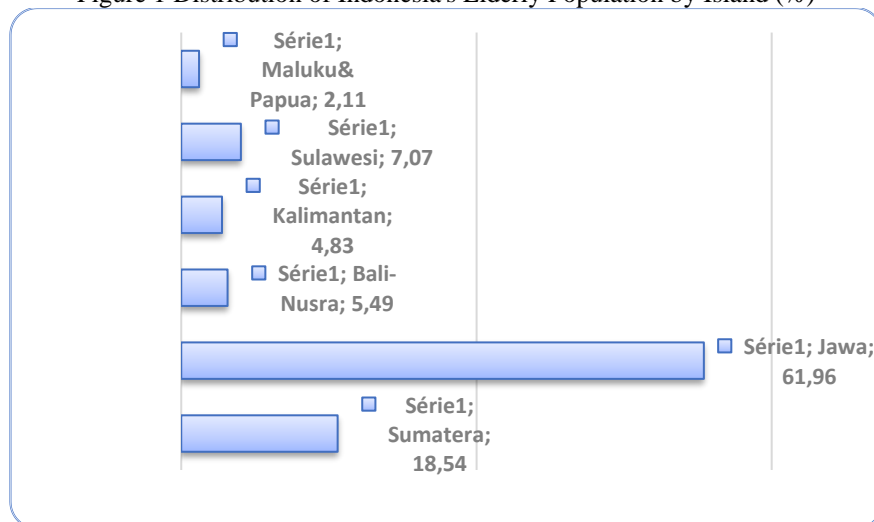
Table 2. The Elderly Population in Indonesia for 2010 – 2020 Period

| Classification of Elderly Population | Year 2010       |                | Year 2020       |                | The Increase 2010 – 2020 (%) |
|--------------------------------------|-----------------|----------------|-----------------|----------------|------------------------------|
|                                      | Total (million) | Percentage (%) | Total (million) | Percentage (%) |                              |
| Young Elderly (60 – 69 years)        | 10,75           | 59,59          | 17,66           | 65,81          | 64,27                        |
| Adult Elderly (70 – 79 years)        | 5,43            | 30,12          | 7,17            | 26,73          | 32,03                        |
| Old Elderly ( $\geq$ 80 years)       | 1,86            | 10,29          | 2,00            | 7,74           | 7,92                         |
| Grand total                          | 18,04           | 100,00         | 26,84           | 100,00         | 48,76                        |

Source: Processed from 2010 and 2020 Population Census

The Java Island has a high percentage of elderly population which dominates the population of Indonesia. This could become an indication that Java Island will have an aging population first. The percentage of elderly in Java is also higher than the population as a whole, while the islands of Maluku and Papua have the lowest percentage of population, as shown in figure 1.

Figure 1 Distribution of Indonesia's Elderly Population by Island (%)



Source: BPS, 2022. Analysis of Indonesia's Population Profile

### Employment Opportunities for Elderly during the Covid-19 Pandemic

The government pays special attention to elderly population regarding employment opportunities through the Law of Republic of Indonesia No. 13 year 2003 on Employment (R.I., 2003). The article 5 states that as a tribute and appreciation to elderly, they are given right to improve social welfare, one of which is an employment opportunity service. Job opportunity services for potential elderly are intended to provide opportunities to utilize their knowledge,

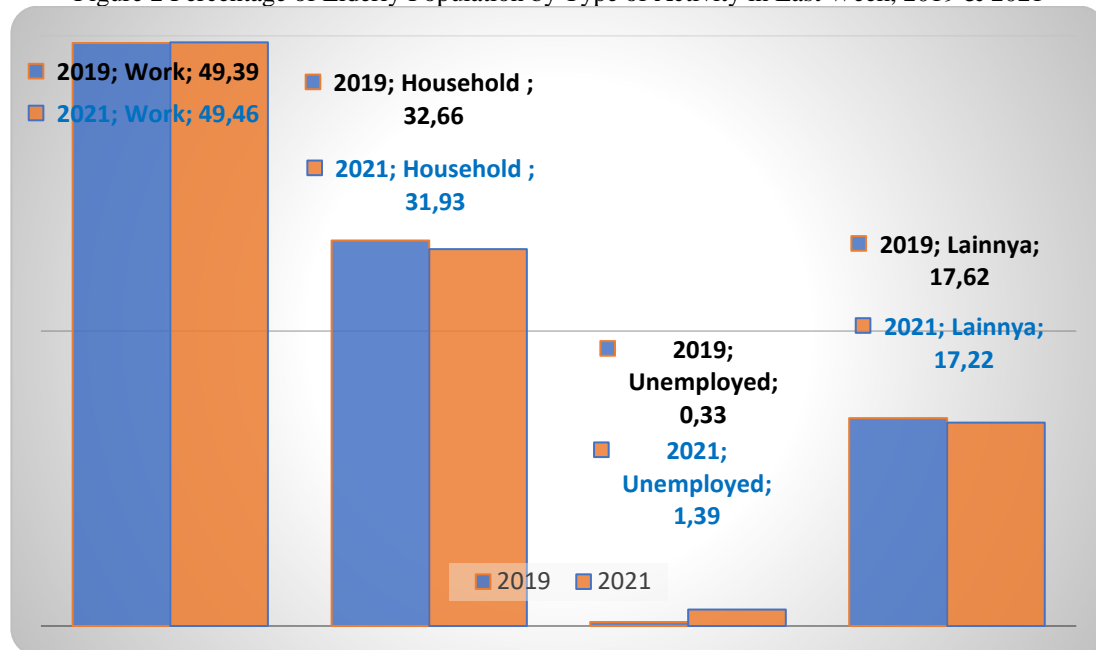


abilities, skills and experience. Jamalludin (2021) stated several reasons why the elderly are still working, including for food and absence of non-labor income such as pension guarantees.

### Working Elderly Before and During the Covid-19 Pandemic

The percentage of elderly working population before the 2019 Covid-19 pandemic was 49.39 percent. The peak period of Covid-19 pandemic showed an increase of 0.05 percent to become 49.46 percent. However, figure 2 showed that unemployed elderly has increased by 1.36 percent, greater than the increase in working elderly. It is consistent with (Goda et al., 2022) and (Khan et al., 2021) that many elderly leave their jobs. This indicates that Covid 19 pandemic has had an impact on number of elderly working. Data also shows that during the Covid 19 pandemic, number of people carrying out household and other activities decreased by 0.63 percent and 0.40 percent, respectively.

Figure 2 Percentage of Elderly Population by Type of Activity in Last Week, 2019 & 2021



Source: Processed from BPS 2019 and 2021 Elderly Population Statistics

Table 3 shows the elderly based on characteristics of domicile, gender and age group. The data shows that number of working people in rural areas is greater than in urban areas. The reason behind the elderly working in rural areas is economic needs. Giles et al. (2011) stated that the accumulated wealth of elderly in rural areas is lower than the elderly in urban areas; they must continue to work for food. In addition, many elderly in urban areas receive pension benefits to meet their daily needs (Ravallion & Chen, 2007). This situation affected the elderly

population who worked in urban areas, which decreased during the Covid-19 pandemic by 0.29 percent. It is consistent with (Parinding et al., 2021) in Palu City showed a decrease in elderly workers by 14.70 percent.

The percentage of working male elderly is much higher than female that more concentrated in household activities. The elderly male working during the Covid-19 pandemic showed a decrease of 0.16 percent, while elderly women working actually increase of 0.79 percent. More than half of elderly working comes from young elderly group (60–69 years). The work participation of young elderly decreased, while the adult elderly (70–79 years) and full elderly ( $\geq 80$  years) increase of 1.17 percent and 0.03 percent, respectively. The higher participation of young and plenary elderly due to increase in economic activities at home and involving the adult and plenary elderly.

More than half of elderly work in agricultural sector. The elderly working in industrial sector decreased by 0.70 percent, while the agricultural and service sectors show an increase of 0.24 percent and 0.46 percent, respectively. It relates with low impact of covid-19 to the two sectors than the industrial sector. The most agricultural is in rural areas while service sector are mostly in urban area.

Table 3. Elderly Working Population by Domicile, Gender and Age Group for 2019 & 2021

| Characteristics         | 2019  | 2021  | Changes during the Covid-19 Pandemic |
|-------------------------|-------|-------|--------------------------------------|
| <b>Domicile:</b>        |       |       |                                      |
| Urban                   | 43,06 | 42,77 | (-0.29)                              |
| Countryside             | 56,51 | 57,30 | 0.79                                 |
| <b>Gender:</b>          |       |       |                                      |
| Man                     | 64,47 | 63,31 | (-0.16)                              |
| Woman                   | 35,66 | 36,84 | 1.18                                 |
| <b>Age Group:</b>       |       |       |                                      |
| Young Elderly (60 – 69) | 58,89 | 58,70 | (-0.19)                              |
| Adult Elderly (70 – 79) | 37,33 | 38,50 | 1.17                                 |
| Plenary Elderly (80+)   | 16,72 | 16,75 | 0.03                                 |
| <b>Business field:</b>  |       |       |                                      |
| Agriculture             | 52,86 | 53,10 | 0.24                                 |
| Industry                | 14,56 | 13,86 | (-0.70)                              |
| Service                 | 32,58 | 33,04 | 0.46                                 |

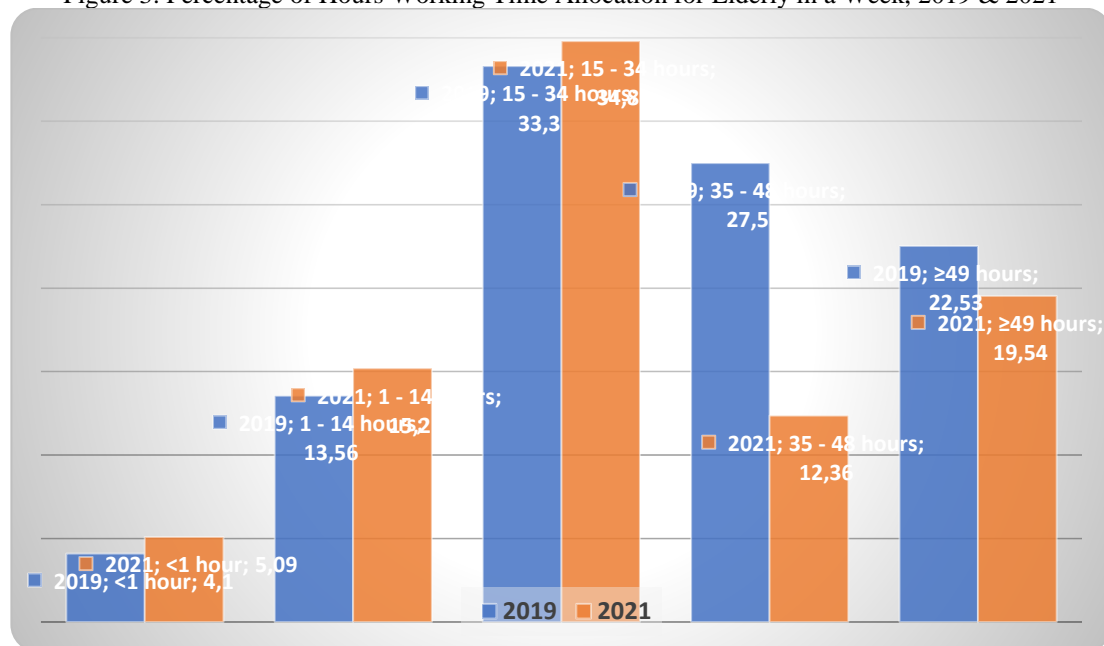
Source: Processed from BPS 2019 and 2021 Elderly Population Statistics

### Older Working Time Allocation During the Covid-19 Pandemic

The working time allocation is very important for elderly workers. Elderly with weaken physical condition certainly should not work excessively. Excessive hours in Indonesian context are defined based on a threshold of 48 hours per week (R.I., 2003). The working time allocation exceeds this limit is classified as unfit.

The largest part of elderly population (30%) work with an allotted time of 15-34 hours per week, but one-fifth of elderly work more than 48 hours per week. It is interesting to note that during the Covid-19 pandemic, working time allocation for elderly increased in  $\leq 34$  hours per week group and decreased in  $\geq 35$  hours per week group. In time allocation group  $< 1$  hour, 1–14 hours and 15–34 hours per week, there was an increase of 0.99 hours, 1.64 hours and 1.5 hours per week, respectively. Whereas in age group 35–48 hours and  $\geq 49$  hours per week decreased by 15.14 hours and 2.99 hours per week respectively. This result means that elderly work time allocation during the Covid-19 pandemic has decreased significantly. This result is consistent with ILO that pandemic has disrupted the global labor market. It is estimated that 5.4 per cent of global working hours lost which is equivalent to 155 million full-time jobs during January to 2020 (ILO, 2020). Many people has lower working hours and lose their jobs, especially in informal sector.

Figure 3. Percentage of Hours Working Time Allocation for Elderly in a Week, 2019 & 2021



Source: Processed from BPS 2019 and 2021 Elderly Population Statistics

The working time allocation for elderly has decreased with increasing the age. Table 4 shows that working time allocation has decreased from young elderly to mature elderly to full elderly. There was a decrease in working time allocation for all age groups during the Covid-19 pandemic. A large decrease occurred in young elderly group of 2.75 hours per week, followed by plenary elderly and adult elderly of 1.93 hours per week and 1.30 hours per week, respectively. The departure of elderly from job market was greatly influenced by emergence of Covid-19 pandemic (Republika, 2020) and (Azimah et al., 2020).

Table 4. Average Working Time Allocation of Elderly Population by Age Group in a Week 2019 &amp; 2021

| Age Group               | 2019  | 2021  | Changes during the Covid-19 Pandemic |
|-------------------------|-------|-------|--------------------------------------|
| Young Elderly (60– 69)  | 35.75 | 33.00 | (-2.75)                              |
| Adult Elderly (70 – 79) | 30,33 | 29.00 | (-1.30)                              |
| Plenary Elderly (80+)   | 25.93 | 24.00 | (-1.93)                              |
| Indonesia               | 34,34 | 32.00 | (-2.34)                              |

Source: Processed from BPS 2019 and 2021 Elderly Population Statistics

### Elderly Income During the Covid-19 Pandemic

Adequate income is important to ensure the worker well-being and an important component of decent work. The elderly have the right to obtain a decent income/wages/salary to ensure their welfare and fulfill their life needs. In addition, elderly require money for health care due to their declining physical condition. The business determines the amount of income/wages/salaries received by workers. Table 5 shows that elderly who work in agricultural sector have the lowest income/wages than industrial and service sectors. Compared to pre-pandemic period (2019), the average income of elderly decreased by IDR 220,000 than Covid-19 pandemic (2021). The same thing happened in all sectors of economy. The service sector experienced the largest decrease in income, namely Rp.305,000 per month, followed by industrial sector and agricultural sector, each amounting to Rp.186,000 and Rp.111,000 per month.

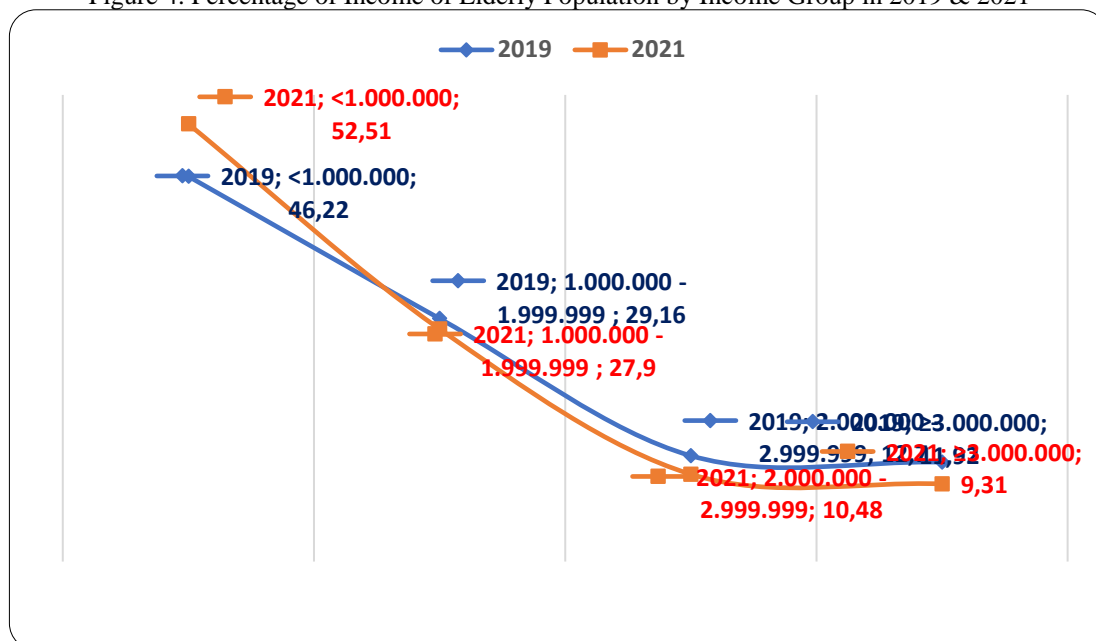
Table 5. Average Income of Elderly Population by Economic Sector in 2019 &amp; 2021 (thousands/month)

| Business field | 2019  | 2021  | Changes during the Covid-19 Pandemic |
|----------------|-------|-------|--------------------------------------|
| Agriculture    | 1.113 | 1,002 | (-111)                               |
| Industry       | 1,705 | 1,519 | (-186)                               |
| Service        | 1895  | 1,590 | (-305)                               |
| Indonesia      | 1,560 | 1,340 | (-220)                               |

Source: Processed from 2019 and 2021 Elderly Population Statistics

There was a decrease in income for all age groups during the Covid-19 pandemic. The decline in income level of elderly is marked by a sharp increase in percentage of elderly who receive income of less than one million rupiah per month and a decrease in percentage of elderly who receive income of more than three million rupiah per month. Figure 4 shows the income percentage of elderly population by income group before the Covid-19 pandemic (2019) and during the Covid-19 pandemic (2021). The elderly who received income of less than one million rupiah before the Covid-19 pandemic increased by 46.22 percent to 52.51 percent or an increase of 6.29 percent.

Figure 4. Percentage of Income of Elderly Population by Income Group in 2019 &amp; 2021



Source: Processed from BPS 2019 and 2021 Elderly Population Statistics

The elderly who received income  $\geq$  three million rupiah per month experienced a decrease from 11.92 percent before the Covid-19 pandemic to 9.31 percent during the Covid-19 pandemic. This is consistent with Khan et al., (2021) that some elderly in Malaysia lost income during the Covid-19 pandemic.

The elderly who have an income of less than one million rupiah is divided by domicile characteristics, gender and age group in Table 6. The percentage of elderly who receive income of less than one million rupiah is greater in rural areas than in urban areas. The elderly who received income of less than one million rupiah in rural areas during the Covid-19 pandemic increased by 6.47 percent while those in urban areas increased by 5.80 percent. The gender income of less than one million rupiah, highest was the female group. The women shows an increase of 6.02 percent who received income of less than one million rupiah, while men experienced an increase of 5.78 percent. This is consistent with (BPS Jambi, 2020) that percentage of women's income has decreased more than that of men. Judging from age group receiving income of less than one million rupiah, highest is the plenary elderly group. During the Covid-19 pandemic the young elderly group shows the highest increase of 6.71 percent, followed by plenary elderly and adult elderly at 6.55 percent and 2.25 percent, respectively.

Table 6 Percentage of Elderly Population with Income of Less than IDR 1,000,000 per Month in 2019 &amp; 2021

| Characteristics         | 2019  | 2021  |
|-------------------------|-------|-------|
| Domicile:               |       |       |
| Urban                   | 39,81 | 45,61 |
| Countryside             | 54,15 | 60,62 |
| Gender:                 |       |       |
| Man                     | 37,05 | 42,83 |
| Woman                   | 61,44 | 67,46 |
| Age Group:              |       |       |
| Young Elderly (60 – 69) | 42,13 | 48,84 |
| Adult Elderly (70 – 79) | 59,58 | 61,83 |
| Plenary Elderly (80+)   | 69,66 | 76,21 |

Source: Processed from BPS 2019 and 2021 Elderly Population Statistics

## CONCLUSIONS AND RECOMMENDATIONS

Based on discussion of results of this study, it can be concluded as follows.

1. The number of elderly entering the labor market for period 2019 (before the Covid-19 pandemic) to 2021 (during the Covid-19 pandemic) was 0.05 percent but there was an increase in elderly unemployment of 1.36 percent. Those who work in urban areas and in industrial sector get pressure to leave the labor market
2. The average working time allocation for elderly has decreased from 2019 (before the Covid-19 pandemic) to 2021 (during the Covid-19 pandemic) by 2.34 hours per week. Those working in group working time allocation of 35–48 hours per week and  $\geq$  49 hours per week showed a sharp decrease of 15.14 hours and 2.99 hours per week, respectively.
3. The average income of elderly has also decreased during the Covid-19 pandemic by IDR 220,000 per month. It is marked by an increase in elderly population income  $<$  IDR 1,000,000 per month and a decrease in elderly income  $\geq$  IDR 3,000,000 per month. The percentage of elderly income  $<$  IDR 1,000,000 per month is more common in those who work in rural areas, female and plenary elderly group ( $\geq$  80 years).

Some recommendations are presented based on results of discussion and conclusions

1. The policy of providing assistance in form of venture capital funds for elderly needs to be continued and expanded to support productive older people to be allowed to work at home.
2. This research shows that more than half of elderly have incomes below one million rupiah. Therefore, the families and relatives of elderly should optimize economic support for elderly.

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