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CASE STUDY: HOUSEHOLD FACTORS AND ELDERLY WORK DECISIONS IN INDONESIA

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Article Information	Abstract
	Indonesia is one of the countries with a large elderly population. The high participation rate of the elderly workforce can cause this. This kind of challenge, if it does not receive special attention from the government, can cause several new problems, especially in the issue of employment. Therefore, this study was conducted to see how household characteristics influence the decision of older people to work. The data used in this study is sourced from the Indonesian Family Life Survey (IFLS) 5th wave. The methodology used in this paper is a logit econometric model. This logit model is used because the dependent variable from this study is a dummy variable. From the analysis results, evidence was found that household characteristics, such as the type of work, education level, marital status, health status, and residential area status, significantly impact the decision of older people to work. By understanding the characteristics of households that influence older people's decision to work, we can design more effective policies and programs to support older people and ensure their well-being, especially at retirement age, such as pension schemes and social protection programs.

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INTRODUCTION

Indonesia is an archipelagic state with a large population. Based on the Central Bureau of Statistics (BPS) publication, evidence was found that in 2014, the population of Indonesia reached 252.2 million people. This figure can be interpreted by the abundant availability of human resources in Indonesia. Unfortunately, the high population in Indonesia is inversely proportional to the population growth rate. Based on data from BPS in 2010-2016, Indonesia's annual population growth rate is only 1.36. This can be the cause of the imbalance in the composition of the population in Indonesia. According to the Central Bureau of Statistics (BPS, 2023), the number of Indonesians aged 60 and above is steadily increasing, a trend attributed to improvements in healthcare and a declining birth rate. As a result, the country is entering an aging phase earlier than anticipated, bringing new challenges to its social and economic systems.

The increase in older adults is one of the main challenges in social and economic development in many countries, including Indonesia. Taali (2021) stated that the increasing proportion of the age group over 60 years affects long-term macroeconomic growth. A fundamental issue caused by a high elderly population is the lack of output growth contribution from older people. Based on BPS data, the proportion of older people in Indonesia shows an increasing trend yearly. This phenomenon aligns with the demographic transition marked by a decline in fertility rates and an increase in life expectancy. This condition impacts the population's age composition, employment dynamics, and social welfare policies.

Susenas data in 2014 (in BPS publication, 2015) states that there are 16.08 million elderly households in Indonesia, or 24.50% of all households. Elderly households are referred to when one of the household members is 60 years old and above. In 2014, the number of older adults in Indonesia reached 20.24 million, equivalent to 8.03% of the Indonesian population. Based on the BPS (2024) release, evidence shows that over the past decade (2015–2024), the percentage of older adults in Indonesia has increased by nearly 4 percent, reaching 12.00 percent. Life expectancy has also shown an upward trend, from 70.78 years in 2015 to 72.39 years in 2024. This indicates that the elderly population in Indonesia is relatively large.

In general, the participation of the elderly workforce tends to decline with age, along with declining physical abilities and increasing health risks. Kismanto (2024) states that the declining health status of older people with increasing age will affect their quality of life. Changes in the quality of life caused by physical deterioration will reduce older people's productivity. However, not a few older adults still choose to work. This decision can be driven by various reasons, such as insufficient income from retirement, the desire to remain socially active, and the economic needs of the household. The continuous growth trend underscores the increasing economic engagement of Indonesia's population. It suggests an opportunity for policy planning, especially in job creation, social protection, and upskilling programs to accommodate this growing workforce. The high number of older people in Indonesia who are still working in their old age can be seen in Figure 1.

The participation rate of men and women aged 55 years and above since the mid-1990s has indeed increased significantly. This increase is evident for the 55-64 age group. However, individuals aged 65 and above have recently remained in the labor force. The increase in men indicates a decrease in retirement or labor force participation at a younger age. As for women, increased labor force participation can be attributed to young workers' growth and changes in retirement behavior (Grigoli, Koczan, and Topalova, 2018).

In addition, Kaushal (2014) said that the increase in the number of older adults worldwide has triggered several countries to issue policies and programs to prevent the negative impacts caused. However, these programs and policies have only been implemented in developed countries. For example, developed countries' pension and social assistance programs cover almost the entire elderly population. In developing countries, similar programs only cover a tiny portion of the elderly population. Countries that provide pension programs will

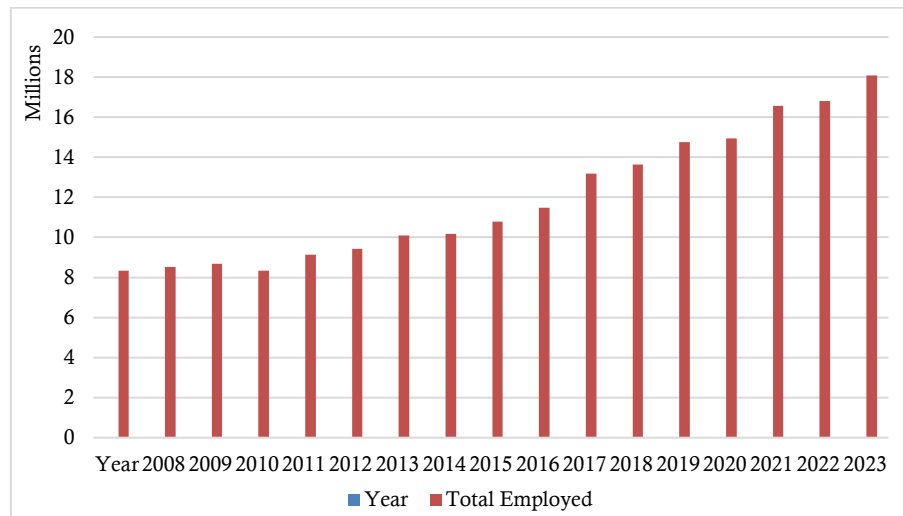allow older people to be financially independent (Brandt & Deindl, 2013).

Figure 1. Number of Working Population Aged 60 Years and Above
Source: Central Statistics Bureau, 2024

Vere (2011) revealed that a social security system in a country can reduce the participation rate of older people in the labor force. Unlike developed countries with comprehensive social security frameworks, many elderly Indonesians continue to work past retirement age, often out of financial necessity rather than preference. Studies suggest that limited access to pensions and inadequate savings force many older adults to remain in the workforce (Asher & Bali, 2015; Lloyd-Sherlock, 2000). In this context, the household emerges as a critical unit that influences the decisions of elderly individuals regarding continued labor force participation. Unlike in many developed economies where comprehensive pension schemes and elderly welfare systems exist, Indonesia's social safety nets for older individuals remain limited. Many elderly Indonesians continue working well beyond retirement age, not out of choice, but necessity. Economic vulnerability, lack of formal retirement income, and limited access to healthcare contribute to this reality. Moreover, in the absence of strong institutional support, households play a pivotal role in shaping the economic behaviors of elderly individuals. Decisions about whether to continue working are often influenced by personal factors like health and education and broader household dynamics, including marital status, living arrangements, and economic dependence within the family.

Household characteristics, such as the number of household members, economic status, the existence of working family members, the level of education of family members, and the presence of financial dependents, are suspected to have a significant influence on the decision of older people to remain economically active. Puri (2022), in her research, stated that several variables influence the decision of older people to work, including their place of residence, level of education, gender, and marital status.

Household factors such as income level, the number of dependents, the presence of other working-age family members, and caregiving responsibilities significantly affect whether older adults choose to work (De Carvalho Filho, 2008; Chan, 2013). In Indonesia, the reliance on family support systems remains strong, particularly in rural areas where formal retirement benefits are scarce (Nurvidya & Utomo, 2014). However, changing family structures, urban migration, and increasing living costs weaken traditional intergenerational support mechanisms, placing additional pressure on older adults.

Elderly living in low-income households, for example, may be compelled to work to support the finances of their family. Conversely, in households with good financial

conditions, older people tend to have the option of not working and enjoying retirement. Several studies also show that there is a negative relationship between the work participation of the elderly and several socio-demographic variables, including age, education level, the existence of a healthy partner, and the number of household members (Evers & Ester, 2013; Hansson et al., 1997; Henkens, 1999; Ropik, 2013).

In Indonesia, where formal institutional support for older people is limited, household dynamics fill the gap. However, these traditional support structures are gradually evolving due to urban migration, changing family values, and economic pressures. As adult children move to urban areas searching for work, many older parents are left behind, sometimes with grandchildren in their care and limited financial assistance. The combination of caregiving responsibilities, rising living costs, and insufficient savings leads many to prolong their participation in the workforce, often in the informal sector, where labor is physically demanding and pay is modest.

Previous research has shown that household characteristics are a critical determinant influencing older people's decision to stay at work. According to a study by De Vos and Lee (1993), the existence of family members who are still financially dependent, such as grandchildren or adult children who are not yet independent, contributes to the decision of older people to work to support the economic needs of the household. In addition, in a study by Ofstedal, Reidy, and Knodel (2004) in Southeast Asian countries, including Indonesia, it was found that the elderly living in multigenerational households with low-income levels were more likely to work than those living in households with stable economic conditions. Research by Cameron and Cobb-Clark (2008) showed that elderly individuals in lower-income households are more likely to continue working to support their families. In the Indonesian context, Suhaimi and Daud (2020) found that elderly work participation is positively associated with the number of non-working household members.

Many elderly individuals in Indonesia continue to participate in the labor force, often out of necessity rather than choice. Their decisions to work are shaped by individual factors such as health and education, and various household dynamics. For instance, the number of dependents in the household, access to family support, and the overall economic condition of the family can strongly influence whether an older adult decides to remain in or re-enter the workforce.

With the imbalance in the population composition in Indonesia, in the end, the elderly population still has many who participate in employment. Therefore, this study aims to examine in depth the influence of household characteristics on the decision of older people to work. This study uses IFLS data to comprehensively analyze the socio-economic factors that influence the decision of older people to work, including aspects that have been less explored before, such as the impact of marital status or access to healthcare. The findings are expected to contribute theoretically and practically to the development of social security programs and policy interventions that are responsive to the needs of older people in the context of their households. Understanding how household-level factors influence elderly work decisions is essential for developing informed public policies. Targeted social protection programs, improved access to pensions, and community-based elderly care systems must be designed with a deep understanding of the household context. The findings can offer valuable insights for policymakers and researchers interested in aging, poverty reduction, and sustainable livelihoods in developing countries.

RESEARCH METHODS

A descriptive quantitative method is used in this study. Secondary data from the Indonesian Family Life Survey (IFLS) 5th wave, published in 2014, is used in this study. IFLS is one of the most extensive longitudinal surveys conducted in Indonesia. This survey is designed to collect in-depth data on the conditions of families and individuals in Indonesia, including social, economic, health, and educational aspects. The research sample represents approximately 83% of the Indonesian population

and includes more than 30,000 individuals living in 13 provinces. IFLS began in 1993 and has been conducted periodically since then. This data is processed using the logit econometric model. The model was chosen because of the use of categorical dummy dependent variables. Logit regression is employed in this study because the dependent variable, whether an elderly individual is engaged in work, is binary, taking a value of 1 if the person works and zero otherwise.

The logit model, by contrast, is specifically designed to handle dichotomous dependent variables. It estimates the probability of an event (in this case, working in old age) as a function of several independent variables, using a logistic function to ensure that the predicted values fall between 0 and 1. This makes it particularly appropriate for modeling decision-making outcomes, such as labor force participation, that are inherently categorical (Gujarati & Porter, 2009).

Furthermore, logit regression allows for straightforward interpretation of the direction and statistical significance of each predictor's effect on the likelihood of working. For example, variables such as health status, marital status, and educational level can be included to examine how they influence the probability of labor force participation among older people, while accounting for other covariates like place of residence or type of work. Using this method, the study aims to uncover the relative influence of various household and individual-level factors on elderly work decisions, providing more accurate insights into the determinants of labor participation in later life.

Numerous studies have used logistic regression to examine labor force participation among older populations, particularly in the context of developing countries. For instance, Cameron and Cobb-Clark (2008) applied a logit model to explore how household composition affects elderly work decisions in Indonesia. Similarly, Lee and Oguzoglu (2007) used logistic regression to study retirement behavior in Australia, emphasizing its suitability for binary labor market outcomes. Suhaimi and Daud (2020) also used a logit approach to examine how household dependency influences elderly labor force participation in Indonesia, further supporting the methodological relevance of this model.

The independent variables used in this study included a dummy type of work, a dummy marital status, a dummy residence, a dummy health status, and a dummy of education level. The variables compiled in the study can be seen in Table 1.

Table 1. Operational Definition of Variable

Variable	Definition	Data Sources	References
Working Status	1=working 0=not working	Book K section AR	Huda (2020)
Type of work	0=informal 1=formal	Book 3A Section TK	Pudyantoro (2024)
Marital Status	1=married 0=not married	Book K Section AR	Cameron and Clark (2008), Huda (2020)
Education	0=no school 1=Junior High School 2=High School 3=D1, D2, D3, S1, S2, S3	Book K Section AR	Pudyantoro (2024)
Health	1=Healthy 0=unhealthy	Book 3B section KK	Cameron and Clark (2008)
Urban	1= urban 0=rural	Book K Section SC	Pudyantoro (2024)

Source: Data processed, 2025

The equation model used in this study is as follows:

$$P(Y_i = 1) = Ln \frac{\pi_i}{(1-\pi_i)} = \propto + \beta_1 type_i + \beta_2 marital_i + \beta_3 educ_i + \beta_4 health_i + \beta_5 urban_i + \varepsilon_i \qquad (1)$$

Description:

Yi	:	Variable dummy status of work by an individual i
type	:	Variable dummy type of work chosen by individual i
marital		Variable dummy of marital status for individual i
educ	:	The level of education of an individual is
health	:	Variable dummy status of health experienced by individual i,
urban	:	Variable dummy status of residence experienced by individual i.

RESULTS AND DISCUSSION

The sample used in this study was 17,581 respondents. The selection of the research sample only focused on respondents who were included in the elderly category, namely, respondents who were over 60 years old. The dependent variable, work, has a mean of 0.42 with a standard deviation of 0.49. This indicates that approximately 42% of the elderly respondents in the sample are engaged in work, while the remaining 58% are not. The binary nature of this variable, with values ranging from 0 to 1, reflects whether an individual is working (1) or not (0). Further explanation of descriptive statistics in the study can be seen in Table 2.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
work	17.518	0,42	0,49	0	1
type_of_work	17.518	0,58	0,23	0	1
marital	17.518	0,81	0,54	0	1
educ	17.518	1,42	0,81	0	3
health	17.518	0,73	0,44	0	1
urban	17.518	0,54	0,49	0	1

Source: Data processed, 2025.

From the estimation results, evidence was found that household characteristics significantly impact the decision of older people to work. Table 3 presents a logistic regression analysis examining the factors associated with elderly individuals' decisions to work in Indonesia. The regression results suggest that demographic, socioeconomic, and locational factors influence elderly work participation. Policies aiming to support the elderly workforce should consider improving access to flexible work arrangements, strengthening health services, and addressing regional disparities in employment opportunities.

Table 3. Logit Regression

Dependent: work

Variable	Logit
type_of_work	-0,102***
	(0,010)
marital_status	0,280***
	(0,029)
educ	-0,225***
	(0,039)
health	0,169***
	(0,035)
urban	-0,410***
	(0,032)
Constant	-0,049
	(0,050)

Variable	Logit
Observations	17581
Pseudo R²	0,0234

Source: Data processed, 2025

From the independent variables used in this research, it was shown that all independent variables had a significant effect on the decision of older people to work. The analysis results related to the marginal impact can be seen in Table 4 below.

Table 4. Marginal Effect Analysis

	Margin	Delta-method Std. Error	z	P>|z|	95% conf.	Interval
_cons	0,4203676	0,0036703	114,53	0,000	0,4131739	0,4275613

Source: Data Processed, 2025

From Table 4, it can be seen that the marginal effect value is 0.42. This result indicates that the average probability of individuals in the data being employed (working=1) is approximately 42%, and the estimate is statistically significant. This value is calculated by considering the distribution of all covariates in the data, not just at a specific value.

The type of work has a significant impact on the decision of older people to work. The classification of job types becomes essential to analyze because we must identify which sectors absorb more elderly workers. Descriptive statistics in this study show a total of 16,492 respondents who are working in the informal sector. Older people may no longer be able to work in the formal sector. This is especially true if certain conditions require them to continue working in their old age.

The findings of this study indicate that the more elderly individuals are engaged in the informal sector, the higher their probability of remaining in the workforce This is in line with the research of Berliana and Purbasari (2016) which states that the status of self-employed workers, working with the help of workers, whether paid or unpaid, has a greater tendency than freelancers/unpaid workers to overwork. This type of work has a significant probability to influence decisions on older people to work because of the p-value we can see in Table 3, which is statistically significant. The large number of self-employed older adults can be seen from the statistics of the type of job in Table 5.

Table 5. Type of Work Statistics

Type of work	Freq.
0 = informal sector	16.492
1 =formal sector	1.026

Source: Data processed, 2025

Marital status also had a significant impact on the decision of older people to work. Andini et al. (2013) stated that the marriage status of older people substantially affects their employment status. In more detail, Sumarsono (2015) noted that the elderly population with a marital status has a greater chance of working full-time (≥35 hours) than part-time (<35 hours). Older adults who still have a partner have a higher probability of working when compared to those who do not have a partner. The difference between being married and not married is about their needs. This indicates that elderly individuals who are married are more likely to participate in work than those who are not. This may reflect shared financial responsibilities within a household or the economic necessity to contribute jointly to household income. Table 5 shows the distribution of respondents based on their marital status. Out of the total respondents, 4,580 individuals (coded as 0) indicated that they were not married, while 12,938 individuals (coded as 1) reported that they were married. This suggests that the majority of respondents are married.

Table 6. Marriage Status Statistics

Marital Status	Freq.
0 = not married	4.580
1 = married	12.938

Source: Data processed, 2025

Another variable that had a significant impact is the level of education of older people. From Table 3, it was found that this education variable hurt the decision to work with older people. This means that the lower the level of education among older people, the more likely they are to work at retirement age. And vice versa. This aligns with research from Utomo (2018), which states that older people with a high education level tend not to work. On the other hand, older people with lower levels of education will tend to continue working at their retirement age. This could suggest that those with better education had access to formal employment with retirement benefits or savings, reducing the need to continue working in old age. From the education level statistics that we can see in Table 7 below, we can conclude that the respondents for this research have a low level of education.

Table 7. Education Level Statistics

Education Level	Freq.
0 = no school	1.526
1 = Junior High School	9.230
2 = Senior High School	4.645
3 = D1, D2. D3, S1, S2, S3	2.117

Source: Data processed, 2025

The health status of older people also positively impacts the number of hours of work they do if other factors are considered fixed, in line with French (2005), who stated that health is one of the main factors that affect labor participation. Healthy workers can be more productive than unhealthy workers. Healthier elderly individuals are more likely to remain economically active. This highlights the importance of physical and mental well-being in enabling continued participation in the labor market among older adults. In Table 8, we can see that the number of healthy workers is 12.758 respondents. This means the number of healthy workers exceeds that of unhealthy workers.

Table 8. Health Status Statistics

Health Status	Freq.
0 = not healthy	4.760
1 = healthy	12.758

Source: Data processed, 2025

The residence variable also significantly affected the decision of older people to go to work or not. Based on Table 3, it can be seen that the area where you live has a negative probability of working. This indicates that older people living in urban areas will have a smaller chance of working at retirement age. On the other hand, older people living in rural areas will still have a high probability of working at their retirement age. This study aligns with Affandi (2009), who stated that elderly individuals living in rural areas are more likely to work in their later years. This may be due to differences in economic structures, availability of informal work, or social safety nets that vary between urban and rural settings. The statistics of the residence can be seen in Table 9.

Table 9. Residential Area

Urban	Freq.
0 = Rural	8.019
1 = Urban	9.499

Source: Data processed, 2025

CONCLUSION

This study has explored the influence of household and individual-level factors on elderly labor force participation in Indonesia, using a logit regression approach. The findings reveal that several variables—including type of work, marital status, education level, health condition, and urban-rural residence—play a significant role in shaping whether older individuals remain economically active.

Notably, married elderly individuals and those in good health are likelier to work, suggesting that social support structures and physical well-being are critical enablers of continued labor participation. In contrast, higher education levels were associated with a lower likelihood of working, potentially reflecting better access to retirement savings or pension schemes among more educated individuals. Moreover, older adults living in urban areas were less likely to work than their rural counterparts, likely due to differences in informal employment opportunities and cost-of-living pressures.

From a methodological standpoint, logit regression has proven effective in modeling binary outcomes such as work participation, providing statistically robust and policy-relevant insights. This study found that various household characteristics cause older people to work. The type of work, education level, and residence significantly negatively impact older people's decision to work. Another variable that had a significant positive effect was the marital status and health status of older people. By understanding the characteristics of households influencing older people's decision to work, we can design more effective policies and programs to support older people and ensure their well-being, especially in retirement. Therefore, it is essential to understand how household characteristics influence the work decisions of the elderly to formulate policies that support the welfare of older people and the effectiveness of pension and social protection programs.

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