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Not a Life Choice: Social Exclusion as the Driver of Elderly Work in Indonesia

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ABSTRACT

Objective: *This study examines the relationship between social exclusion and labor force participation among the elderly in Indonesia.* ***Method:*** *Utilizing data from the fifth wave of the Indonesia Family Life Survey (IFLS) in 2014, the research harnesses a social exclusion index that is built based on three dimensions: financial deprivation, social isolation, and lack of basic social rights.* ***Results:*** *Using a marginal effect of a logistic model, the study shows a robust positive and significant effect of social exclusion on decision to keep elderly participates in labor force. This finding persists even after controlling for demographic characteristics, health and cognitive ability, and job-related demands.* ***Novelty:*** *The results support the social compensation hypothesis, indicating that work in later life often functions as a necessity fulfillment rather than a choice for productivity. Therefore, elderly employment may signal underlying vulnerabilities in social basic right and challenging the optimistic view of second demographic benefit.*

INTRODUCTION

The goals to achieve a healthy and sustainable life have long become a primary goal for society as a whole. Even a major progress has been made, these efforts remain a significant concern, particularly in developing countries (Dhandapani & Venkataraman, 2023). The United Nations and Development Programme (UNDP) has formulated these efforts into several goals, including the third goal, which is to ensure a decent life for all age groups, and the twelfth goal of sustainable consumption and production (UNDP, 2025). The efforts to achieve a decent life with sustainable consumption still face major obstacles, especially for non-productive age groups.

Today, the increasing population of non-productive age has caused its own social problems in terms of their participation in the labor force (Kooij et al., 2020). Although they are willing to work, the elderly remain have difficulty finding suitable jobs, resulting in low income and declining health after retirement (Banerjee et al., 2023). This situation is certainly disadvantageous, not only for the elderly age groups but also for the productive groups, as they will burdens additional economic costs (Mitra et al., 2017; Morris & Zaidi, 2020).

In Indonesia, the demographic transition leads towards an aging process since 2021. According to Indonesia Statistics (2024), the proportion of elderly in 2015 was still at 8.43 percent, and reached 10.82 percent in 2021 before increasing to 12 percent in 2024 with the dependency ratio of 17.08. The phenomenon potentially becomes a second demographic benefit, where the proportion of elderly people increases and remain productive (Heryanah, 2015). To support this opportunity, an appropriate policies and mechanisms are crucial to understand.

Nowadays, older adults are often considered no longer competent after retirement age, primarily due to health factors (Kikkawa & Gaspar, 2021). However, in countries where health insurance is not supportive, older adults often continue working (Coile et

al., 2016). This, of course, is not a lifestyle choice, but rather due to necessity to meet living needs. Moreover, several previous studies have shown that among those who choose to keep working, they often have low level of education Burtless (2013) and are not tech-savvy (Lewandowski et al., 2017).

However, sociological literature has long emphasized the limitations of older adults. From this perspective, learning, working, and retiring are depicted as three stages throughout the life course, known as the three divisions of life (Kohli, 1986). The third stage is understood as one of dependency, decline, and loss (Townsend et al., 2006). The negative aspect represents the portrayal of older adults referred to as the deficit model, which serves to legitimize the trend toward early exit from the labor force. In this context, the concept of productive aging emerges (Boudiny & Mortelmans, 2011). Rooted in activity theory, the discourse on active aging focuses on promoting the continued participation of older adults in society. This involves the element of 'competence thinking': instead of emphasizing what older adults can no longer do (i.e., their deficiencies), the focus is on the competencies and knowledge that older adults possess (Daatland, 2006).

In addition, studies on the decisions to remain productive in the labor force for the elderly are narrow. In Indonesia, several studies solely focus on the influence of individual characteristics. Nugroho et al. (2026) concluded that years of education, marital status, gender, region, number of household members, and status as head of household are significant predictors to continue working. Rahman & Permadi (2020) also concluded somewhat similar, where the level of education, marital status, and their household status remain the major factors. However, no comprehensive study has been conducted, apart from individual characteristics, factors such as social inclusiveness, health conditions, and job-related demands will also affect the decision to work. Therefore, we will include those unobserved factors to reduce the bias that was previously omitted.

In addition, the study on the mechanisms by which older age groups decide to continue working is still limited. This limitation on academic literatures leads governments, communities, and workers have very little guidance on policy implications (Kooij et al., 2020). Several studies solely focused on how to bridge older workers for success employement. Pak et al. (2023) emphasized on competencies and levels of satisfaction, while Kooij et al. (2020) explained it from the demand side, such as jobs with physical demands, mental demands, and low support from supervisors or colleagues, which can make older workers accelerate their retirement. A part of this could be explained by declining physical ability with age (Ilmarinen, 2001). Fattori et al. (2024) explained it from a health perspective, where avoiding stress from high-tech jobs and improving sleep quality allow workers to work longer. Fisher et al. (2017) emphasizes the role of cognitive abilities, where suboptimal cognitive abilities become the main barrier.

In this study, we contribute to the underlying mechanisms of the decision to continue working in later life, which has not been discussed in previous literatures. Based on the social compensation mechanism, we question the dual nature of labor force participation among the elderly: whether it is an active choice aligned with productive aging or a necessity forced by inadequate social right. Therefore, using an adequate proxy for social protection is necessary. Zhou et al. (2024) mentions that the omitted of social protection is substantial to continue working.

We use the concept of Social Exclusion to capture the absence of social protection. Social Exclusion is broadly understood as a form of disadvantage cycle by individuals at vulnerable age (Levitas et al., 2007). Chandola & Conibere (2015) explain that social exclusion is the lack of an individual's ability to fully participate in the life of their community. In more practical terms, Bossert et al. (2007) argue that social exclusion occurs due to an individual's inability to access standard social functions that others can. Social exclusion per se is a classic concept is increasingly becoming a global concern, in both developed and developing countries. However, previous literatures focused more on developed countries, and less attention in the context of emerging countries (Agita Sari, 2015; Wan & Su, 2017).

Social exclusion is rarely studied as main predictors, especially regarding decisions to work in later life. Hrast et al. (2012) emphasize that post-productive age is more vulnerable compared to other groups in many ways. Considering their vulnerability, the issue of social exclusion among the elderly must be addressed properly. Pohlan (2019) argues that being unemployed is significantly related to subjective perceptions of social integration. This indicates that a large decline in social integration is partly explained by the adverse effects of economic resources and psychosocial functioning. Hence, social exclusion supposed be eliminated to provide a good quality of life in old age.

This study will provide additional insight for the government to prepare appropriate policies for older workers. The study will provide an overview of whether social exclusion can reduce a person's interest in continuing to work. The issue becomes critical if social exclusion directly increases the probability in working. It proves that the decision to work for older adults is not to remain productive, rather they are not receiving their social rights. This is, clearly, a bad signal for the economy.

Previous literatures attempted to establish a universal measure for social exclusion. However, much of the subsequent literature introduces concepts that are essentially similar, even though they use different dimensions. The definition of social exclusion continues to evolve, and some experts argue that its indicators depend on the social context (Bradshaw et al., 2004). This study uses the concept from Yang et al. (2018), that examines how social exclusion affects the cognitive abilities of the elderly in China. This approach has also been modified by Astuti et al. (2022) to test the relationship between social exclusion and the characteristics of community leaders. They use a measure of social exclusion based on three dimensions: financial deprivation, social isolation, and the lack of basic social rights.

RESEARCH METHOD

We use longitudinal survey data from Indonesia Family Life Survey (IFLS), which provides information on socio-economic characteristics at the individual, household, and community levels. The first wave of IFLS was conducted in 1993, followed by the second wave in 1997, third wave in 2000, fourth wave in 2007, and the fifth wave in 2014. This data represents 83 percent of the Indonesian population with a low respondent attrition rate, with more than 90 percent of respondents successfully recontacted across various survey waves (Frankenberg & Karoly, 1995). To test our hypothesis, we use the fifth wave of IFLS including 1,778 individuals from 1,555 households aged 60 years and over. While the IFLS is a longitudinal panel, this study primarily utilizes data from the fifth wave (2014) for cross-sectional analysis. This wave is selected because it is the most recent

available wave at the time of analysis and contains comprehensive measures of social exclusion, labor market participation, and relevant control variables for the elderly population. Additionally, the 2014 wave follows the most recent major economic and social policy changes in Indonesia, making it highly relevant for examining contemporary determinants of elderly labor supply.

We acknowledge that using a single wave limits our ability to make strong **causal** claims regarding the effect of social exclusion on labor supply. Without longitudinal variation or exogenous shocks, we cannot fully account for unobserved time-invariant heterogeneity or establish the direction of causality (e.g., whether social exclusion leads to labor force exit or vice versa). However, to mitigate potential endogeneity, we include a wide range of control variables—such as health status, cognitive ability, household size, education, ethnicity, location, and job demand characteristics—as suggested by Zhou et al. (2024).. Additionally, we perform robustness checks using four alternative model specifications to ensure the stability of our estimates.

We use a measure of social exclusion developed by Yang et al. (2018) and adapted by Astuti et al. (2022) that capture social exclusion in three dimensions: financial deprivation, social isolation, and lack of basic social rights. Financial deprivation is assessed using two indicators of subjective economic conditions obtained from individual responses about whether individuals have sufficient consumption for daily expenses and how they evaluate their own economic situation. An individual is classified as financially deprived if they are identified as lacking in at least one of the two financial deprivation indicators. The second dimension is social isolation, which is determined if respondents lack support from their family and if there is no social participation with the surrounding community. The final dimension, lack of basic social rights, is measured by whether elderly individuals have access to pension benefits or none. The detailed score for calculations in each dimension is presented in Table 1.

Table 1. Three Main Dimensions of Social Exclusion

No	Dimension	Sub-Dimension	Value
1	Financial Deprivation: Valued "1" if either the elderly suffered point 1.1 or 1.2 or both	1.1. Insufficient for daily expenses	Valued "1" if the elderly faced insufficient for daily expense, otherwise "0"
		1.2. Rate of economic status	Valued "1" if the elderly rated his economic status as poor or very poor, otherwise "0"
2	Social Isolation: Valued "1" if the elderly experienced the lack of family support and lack of social participation	2.1. Lack of family support	Valued "1" if elderly do not receive any help in terms of money, food and other goods from family, and valued "0" otherwise.
		2.2. Did not participate in any outdoor or organized activities	Valued "1" if the elderly did not participate in organized activities in their communities, otherwise "0"
3	Lack of social basic rights: valued "1" if the elderly did not have retirement programme.	No retirement benefits	Valued "1" if the elderly did not receive retirement, "0" otherwise

We define the elderly group as respondents aged 60 years or older at the time of data collection in 2014. This definition aligns with the standard used by Indonesia Statistics. The social exclusion score is constructed as a categorical variable ranging from zero to three. We refer to the classification by Yang et al. (2018), where if none of the three deprivation conditions are met, it is documented as not experiencing social exclusion and coded with a value of zero in the dataset. Respondents are classified as experiencing moderate social exclusion, severe social exclusion, and extreme social exclusion if they face one, two, and three of the three aforementioned deprivation conditions, respectively. In this case, social exclusion is operationalized as a simple count of deprivations experienced across each dimension, where equal weighting is commonly used to reflect the concept that exclusion is a cumulative condition—the experience of any dimension constitutes a meaningful form of disadvantage. The method assumes that each dimension contributes additively to the state of exclusion and avoids weighting, making it easier to interpret the cumulative burden of each dimension. In addition, this equal weighting avoids arbitrary assumptions about the relative importance of one dimension over another, especially in the absence of strong prior theoretical or empirical grounds for differential weighting in the Indonesian elderly context.

We added control variables for individual characteristics such as region (urban/rural), age, gender, ethnicity, education, and household size. In addition, we also included control variables to indicate the health condition of the respondents, namely health status and cognitive ability. If a respondent has excellent health status and good cognitive ability, the value is "1", and "0" otherwise. Finally, we also included control variables for the type of work performed. This approach was also used by Zhou et al. (2024) to avoid bias from the type of job chosen. We used two dummy variables: whether their job requires physical strength and whether their job requires serious concentration/attention.

The logistic regression model will be used for estimation. The logistic regression model is used because it is suitable for binary outcomes and provides odds ratios that can be directly interpreted for policy discussions (Wooldridge, 2016). To ensure that the results are free from bias, we also conducted a robustness check by analyzing using a probit model. The specification of the main model is as follows:

$$y_i = \beta_1 X_i + \gamma_1 \delta_i + e_i$$

Where y_i represents the dependent variable of the decision to work for older age individual i. X_i as social exclusion while β_1 is the coefficient for social exclusion. γ_i is the coefficient of the control variable δ_i. As for e_i, it is the residual of the estimation error. To facilitate the interpretation, the coefficients of the logit model are presented in the form of marginal values. This can show how a one-unit change in a social exclusion affects the probability of an individual to keep working in the old age, while keeping the individual effects constant.

RESULTS AND DISCUSSION

Results

Table 2 presents descriptive statistics from a sample of 1,778 individuals (1,025 men and 753 women) across three dimensions. Overall, the data shows that financial deprivation, reported by approximately 33.3% of respondents, exhibits little variation between genders. However, significant gender differences exist in social isolation (66.2%) and lack

of family support (60%) for men compared to women (60% and 47.8%, respectively), although women report slightly lower participation in outdoor activities. A striking difference appears in access to social rights, particularly pension benefits, which are not received by 81.5% of men compared to 67.6% of women, indicating a significant gender gap in social security coverage within this sample.

These governance arrangements correspond to different distributions of transaction-related activities. In Brenjonk Organik, coordination activities such as planning, communication, and scheduling are carried out primarily by farmers. Monitoring activities, including compliance with organic practices and quality control, are also conducted at the farmer level through peer-based arrangements. Although formal certification expenses are relatively limited, farmers engage in frequent coordination and monitoring activities as part of routine participation. In Twelve's Organik, transaction-related activities associated with coordination, monitoring, and certification are largely managed by the organization. Farmers are not required to organize collective coordination processes or engage directly in certification-related administration. Instead, these activities are centralized within the organizational structure, resulting in a lower level of administrative involvement for individual farmers.

Table 2. Descriptive Statistics for Social Inclusion Based on Gender

Variable	Male		Female		All samples	
	Obs	Mean	Obs	Mean	Obs	Mean
Financial Deprivation	**1025**	**.33**	**753**	**.337**	**1778**	**.333**
Insufficient for daily expenses	1025	.29	753	.29	1778	.29
Rate of Economic Status	1025	.19	753	.222	1778	.204
Social Isolation	**1025**	**.662**	**753**	**.6**	**1778**	**.636**
Lack of Family Support	1025	.6	753	.478	1778	.548
Did not participate in any outdoor or organized activities	1025	.189	753	.226	1778	.205
Lack of Social Basic Right	**1025**	**.815**	**753**	**.676**	**1778**	**.756**
No Retirement Benefit	1025	.815	753	.676	1778	.756

Note: Bold indicates the aggregate values of each dimension from its components

Table 3 presents descriptive statistics for the main dependent variables and the full set of control variables included in the estimation.

Table 3. Descriptive Statistics for All Variables

Variables	Obs	Mean	Std. Dev.	Min	Max
Work	1778	.77	.41	0	1
Age	1778	66.54	5.92	60	101
Sex	1778	.57	.49	0	1
Household size	1778	3.50	1.93	1	15
Javanese	1778	.50	.50	0	1
Education	1769	4.60	4.03	0	23
Health status	1778	.66	.47	0	1
Cognitive ability	1778	.55	.49	0	1
Urban	1778	.47	.50	0	1
Heavy load working	1778	.40	.49	0	1
Need a deep concentration to work	1778	.58	.49	0	1

Table 3 shows that the mean age of respondents is 66.5 years, and 77.7% are on the labor force. The statistic highlights the patterns of sustained labor force participation in older age. The respondent is slightly male dominated rather than female, nearly evenly split between Javanese and non-Javanese ethnicity, as well as between urban and rural residences. Furthermore, there are differences in respondents' job choices. About 40.3% of respondents work in jobs that require heavy physical labor, and 58.4% indicate that the jobs require deep concentration.

Furthermore, only 66.7% reported good health and 55.8% showed good cognitive ability. This comparison indicates that some older workers may carry out these demanding roles while managing health or cognitive challenges, highlighting the potential issues related to economic needs and physical burdens resulting from extended participation in the labor force.

Furthermore, we tested the hypothesis of social exclusion on work decisions using four different models. The first model is conducted using a basic model in which control variables are not included. The following model involved six individual characteristic variables. Third, we added two control variables as proxies for health conditions. Finally, we included all the control variables, including the two types of jobs performed.

Table 4 shows the estimation results. Four tests of all models show a strong and empirical relationship between social exclusion and labor force participation among the elderly. The first model (*see* column 1) shows a strong positive association, with a significant coefficient of 0.48 for social exclusion. It implies that deprivation of social exclusion increases the probability of someone to work by 48% compared to socially inclusion labor. When we include our controls for individual characteristics and health condition in Models 2 and 3, the coefficient decreases to 0.38 and 0.42, respectively. However, the coefficient remains significant at 5% percent level. This decline indicates that part of the effect of social exclusion operates indirectly through these correlated

factors, so marginalized individuals may have lower levels of education or poorer health, which in turn affects their employment decision.

Tabel 4. Estimation Result

Independents	Work			
	(1)	(2)	(3)	(4)
Social Exclusion	0.48***	0.38**	0.42**	0.42**
	(0.07)	(0.07)	(0.07)	(0.07)
Age		-0.28	-0.27	-0.25
		(0.01)	(0.01)	(0.01)
Sex		1.15***	1.16***	1.11***
		(0.12)	(0.12)	(0.13)
Household Size		-0.02	-0.02	-0.03
		(0.03)	(0.03)	(0.03)
Javanese		0.29*	0.28	0.27
		(0.12)	(0.12)	(0.12)
Education		-0.06	-0.08	-0.04
		(0.02)	(0.02)	(0.02)
Urban		-0.24	-0.25	-0.23
		(0.12)	(0.12)	(0.12)
Health Status			0.16	0.17
			(0.13)	(0.13)
Cognitive Ability			0.19	0.20
			(0.12)	(0.12)
Heavy Load Working				0.31*
				(0.13)
Need a deep concentration to work				-0.06
				(0.13)
Observations	1778	1769	1769	1769

Standardized beta coefficients; Standard errors in parentheses

Notes: The table displays marginal effects of a logit model. Outcome variables: Likelihood that the older workers are on the labor participation. Columns (1) shows the marginal effect without control variable, Column (2) shows the marginal effect with individual characteristics, Columns (3) and (4) with additional health status condition and job demanding factors. $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$.

Model 4 shows a consistent result where coefficient remains at 0.42, indicating that this relationship is not merely a coincidence of job type, thereby reinforcing the robustness of this finding. Overall, the consistent, positive, and significant coefficients across various specifications emphasize that social exclusion is a key driver of employment in later life, supporting the narrative of economic necessity rather than voluntary engagement.

In addition, the coefficient for sex is consistently positive, large in magnitude, and highly significant across Models 2–4. This suggests that elderly men are significantly more likely to work compared to elderly women, all else being equal. It aligns with the gendered nature of social exclusion and economic vulnerability in later life. Men in Indonesia often have less access to pensions, lower lifetime earnings, and fewer accumulated assets, making continued work a necessity rather than a choice. In another hand, women, tend to be able to rely on their spouse to provide their necessities.

Discussion

The results show a positive and significant indicate that individuals experiencing higher levels of social exclusion are significantly more likely to work. This counter-intuitive result suggests that for this elderly population, work may not be a socially ingrained activity but rather a compensatory mechanism, likely driven by economic necessity due to a lack of social or family support systems.

The positive association aligns with the social compensation hypothesis, which states that deficits in resources outside the labor market (Hofäcker & Naumann, 2015). Elderly individuals, particularly those facing financial deprivation and lack of pension access are significantly more likely to work. It also aligns with necessity-driven labor supply theories, where elderly labor participation is a response to economic need rather than preference. These findings also reflect empirical studies in contexts with weak pension systems, where older workers without reliable family networks or social benefits are significantly more likely to remain economically active out of necessity rather than choice.

Notably, the positive association persists even after controlling for health, cognitive ability, and job demands, suggesting that the drive to work may override physical or cognitive constraints when social and economic alternatives are absent. This pattern echoes findings from other middle-income countries with incomplete pension systems, where elderly labor supply is closely tied to vulnerability rather than voluntary extension of working lives.

In the context of policy implication, Indonesia's potential for a second demographic dividend may be limited by poorly met social needs. This highlights the importance of policies to strengthen social safety nets including pension coverage and community support systems. Hence, working in old age can be transformed from a compensatory mechanism into a tangible contribution and enhance well-being for sustainable economic growth (Damayanti, 2025).

Lastly, this study contributes to a growing body of evidence on the complex interplay between social exclusion and labor supply in aging populations. The results underscore the importance of **considering structural and institutional factors** such as pension access, family support, and economic vulnerability in shaping the labor market trajectories of older adults in developing economies.

CONCLUSION

Fundamental Finding: This study reveals that social exclusion, measured through three main dimensions: financial deprivation, social isolation, and lack of basic rights, significantly increases the likelihood of labor force participation among older age groups in Indonesia. These findings support the social compensation mechanism, where work in later life is more driven by economic necessity due to weak social protection, rather than by a voluntary choice to remain productive. **Implication:** The second chance for Indonesia to benefit demographic bonus is at risk. Therefore, policies should be directed towards strengthening the pension system, family support, and social inclusion so that older adults can work decently and ensure their well-being. **Limitation:** This research is not without limitations. First, the use of cross-sectional data may reduce the confidence to show a causal relationship between social exclusion and the decision to work. Second, the potential endogeneity due to unobserved factors (life cycle bias) cannot be completely ignored due to data limitations. Third, the result also should be carefully interpretated across regional differences as factors such as cultural view are not included. **Future Research:** For future research, data observed at multiple periods are essentials to establish causal relationships. Apart, the inclusion of community characteristics variables such as community leader, income inequality, and social integration is necessary to accommodate potential bias from neighborhood factors.

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