

Barrier Coverage of Employment Social Security in the Agricultural Sector

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Abstract

Agricultural sector workers are considered to have a lack of awareness and cost-complexities in accessing social security programs. The discussion of this study will focus on efforts to explore issues regarding the factors that influence the tendency or opportunity for workers to become participants in employment social security. Using the logistic regression method and Sakernas data 2019, it is found that agricultural workers with wages above the Regional minimum wage (UMR), workers who already have Health Social Security, formal agricultural workers, those living outside Java, farmers with monthly wages and heads of households tend to be more to become participants in employment social security. Recommendations for expanding participation for agricultural sector workers can be made with several alternatives, such as, (1) justifying or adjusting payment schemes for those who work with seasonal and uncertain wages. (2) To push the expansion of the scope of workers in the agricultural sector, Social Security Administrator for Employment/ BPJS Ketenagakerjaan can conduct program socialization in collaboration with the Social Security Administrator for Health/ BPJS Kesehatan. This is done since the participation of agricultural sector workers in the BPJS healthcare program is relatively high, (3) It is necessary to encourage employers in the agricultural sector to register their workers in social security, through an approach that is adjusted to the income pattern of farmers (seasonal).

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INTRODUCTION

The agricultural sector has a strategic role in national economic development. The contribution of the agricultural sector to the National GDP in the third quarter of 2021 is 14.30%. This condition positions agriculture as the second largest contributor to GDP after the manufacturing industry and contributes to the largest employment absorption by 28.33% or 37.13 million people (Sakernas, 2021). Based on the BPS data in March 2021, out of Indonesia's total poor population of 27.54 million people, around 55.79% are in rural areas, with the main livelihood in the small-scale agricultural sector. Although the growth of the agricultural sector contribution has decreased in recent years, this sector is still the main source of livelihood for the rural poor and makes it an important sector in poverty alleviation.

Despite having strategic roles, the agricultural sector is also associated with high labor market informality and large exposure to risk. Rural populations face a higher risk of poverty, including poverty due to work, malnutrition and hunger, poor health, occupational disease, natural disasters, and climate change, as well as social risks such as child labor and social marginalization (Allieu and Ocampo 2019). With relatively low and precarious incomes and a lack of social support, many rural residents are driven to keep working when sick and pay no attention to job security, thus facing additional risks. Furthermore, when they experience a loss of job or income, they have the probability to seek alternative solutions such as selling assets, making loans to moneylenders, or engaging in the employment of minors (ILO, 2020).

Agricultural sector workers are considered to have legal barriers, financial barriers, and administrative and institutional barriers to social protection and security. ILO together with IFO defines social protection as a set of policies and programs to prevent and protect vulnerable groups from poverty, vulnerability, and social exclusion throughout the life cycle. ILO (2017) then introduces social security as a description of the social protection situation. One of the foundations is to help vulnerable groups to develop their individual capabilities so that they can progressively access decent work with higher and sustainable income levels. This study was designed with the aim of knowing the characteristics and tendencies of workers in the agricultural sector to become participants in Employment Social Security. The discussion will be focused on efforts to explore issues through a logistic regression model approach.

Social security is a key policy tool for addressing poverty and vulnerability, promoting decent work and inclusive economic growth, and increasing resilience to shocks in the economy. ILO together with IFO defines social protection as a set of policies and programs aimed at preventing or protecting all people from poverty, vulnerability, and social exclusion throughout their life cycle, with specific emphasis on vulnerable groups. ILO (2017) then introduces social security as a description of the situation of social protection in a country. One of the foundations of social protection is to help vulnerable groups to develop their individual capabilities so that they can progressively access decent work with higher and more sustainable income levels.

Case studies in many countries show that social protection in social security can help realize economic, social, and cultural rights and others, including the right to food, clothing, and adequate housing and the right to education and health (Sepúlveda and Nyst 2012; Morlachetti 2016). In addition, apart from the explicit goal of eradicating poverty according to the Sustainable Development Goals (SDG) 1.3 target, the role of social protection is also recognized in the realization of other SDGs, in particular eradicating hunger (target 2.1), achieving universal health coverage (target 3.8), achieving gender equality (target 5.4), promoting decent work and economic growth (target 8.5), reducing inequality (target 10.4) and promoting peace, justice, and strong institutions (target 16.6).

Literature Review

Social Protection Dimensions

ILO (2017) introduces the social security ladder as a description of the situation in terms of social protection within a country. In the illustration, the horizontal axis is the country's population which includes 3 categories including the poor, and the rest from the formal and informal economy. In Indonesia, formal sector workers have access to a certain level of social protection, better than informal workers. In

the social protection dimension, the social protection floor conveys the idea that all workers (regardless of the employment contract system) or people outside the labor market are entitled to social security. The social protection floor offers universal coverage and removes access to social security only for formal workers.

At the same time, the floor of social protection creates relations with workers through improved workability and capacities of beneficiaries for better access to jobs. Social security basically (i) guarantees all people at least the basic/minimum level of social security, (ii) the state should provide a national social protection floor as the basis of their social protection system.

Financial Barriers

Finances can induce disincentives for extending social security coverage, regardless of a contributive, non-contributive, or mixed approach. In this case, coverage or affordability is the main issue in the implementation of social security, including social security specifically for the agricultural sector. Although the need for an agricultural sector social security mechanism is big, due to the presence of high-risk factors, but contribution schemes may not be affordable for both employers and workers in the agriculture field. This is as the majority of agricultural workers are self-employed or low-wage workers and farmers with small and medium scale and micro-enterprises in rural areas. Small farmers tend to have limited contribution capacity due to their low, uncertain, and seasonal incomes while existing liquidity constraints can make rural communities prioritize other pressing risks. Poor rural residents and agricultural workers may have income patterns that make social security contributions unaffordable or impossible to comply with regular contribution schemes. Limited financial capacity also hinders farmers' access to rural institutions, such as cooperatives, in which these institutions are supposed to play an important role, including helping to open access to social security benefits and protection (Vinci, Hani, dan Djeddah 2016). Difficulties in adapting contribution collection appropriately to the situation of rural workers, such as income volatility, can be a further financial constraint for them. Furthermore, a part of the income received by agricultural workers is non-cash or in the form of goods and services. This has led many countries to exclude agricultural workers and casual workers from social security coverage (ILO 2019). The frequently proposed solution to introducing fixed contributions is problematic, as such contributions often only generate benefits that may not be sufficient to meet societal needs and limit the scope of risk sharing (Allieu and Ocampo 2019; ILO 2019c).

For non-contributive schemes, financial barriers mainly include transaction costs associated with registration, collection of payments, and compliance with program requirements such as conditional cash transfers. These costs can reduce net benefits for program beneficiaries or prevent eligible persons from participating in social security programs. Finance is not directly related to compliance, but it can create financial barriers.

Administrative and institutional barriers of agricultural sector workers

Administrative Costs and Complexity

Limited access range in some rural areas can increase social security costs. From the supply side, concerns over high administrative costs (network access) from the community and social security institutions may hinder the increased coverage in rural, periphery, and hard-to-reach areas. Mainly difficulties in adopting technological developments. On the demand side, affordability in difficult areas and lack of access to good infrastructure (damaged roads, transportation costs, social stigma) can also cause the cost of accessing social security to be higher than the real benefits.

Lack of Awareness and Needs Mismatching

Administrative procedures can be a barrier for people to enroll and lead to high opportunity costs for their participation in social security programs (Basaza et al. 2008; Odeyemi 2014). For rural agricultural workers, or informal sector workers in general, time spent on the registration process, benefits claims, and other administrative processes can result in loss of income (ILO 2018c; ILO and IDA 2019).

On the other hand, limited awareness or knowledge about the program can limit access to social security. This is due to information lag, due to the relatively high illiteracy rate in rural areas; language barriers in areas with different local languages; and psychological barriers. Lack of information about program benefits can cause participants to consciously choose not to enroll in social security (Basaza et al. 2008; Odeyemi 2014; Perry 2007; Phe Goursat and Pellerano 2016).

Another barrier is the emergence of the perception that benefits that are felt immediately, will be preferred. Existing programs and benefits are designed without considering the specifics of agricultural work, and therefore provide little value to workers in this sector. On the other hand, there are many gender gaps in gaining access to social protection and security. Social protection and security schemes, especially contributive schemes, can disadvantage or exclude women, who tend to have nonlinear careers and lower wages and are more likely to work in the informal sector (ITUC 2018). In addition, women with children tend to participate less than men. Most of the women work as family workers or unpaid jobs. This results in lower accumulated contributions, which will then result in lower coverage rates, especially in old age (Tessier et al. 2013).

Finally, in most low and middle-income countries, rural residents are excluded from social security schemes.

Policy Integration and Coherence

Many countries still face high levels of fragmentation in the security system and a lack of integration among their social security institutions. This can lead to gaps in coverage and adequacy. A lack of integration with relevant policies and regulations frequently happens, such as agricultural and rural development policies, enterprise formalization policies, labor market and employment policies, or education and training policies (FAO 2016; ILO 2019c)

METHODS

The subjects of this research were workers in the agricultural sector who are members of BPJS for Employment (Occupational Accident Insurance, Death Security, Old Age Security, and Pension Security) based on the data from the National Labor Force Survey conducted by the Indonesian Central Bureau of Statistics in August 2019.

The data related to the variables and indicators that have been determined, were collected and analyzed using the logit method. The result of this stage is to see the characteristics of workers in the agricultural sector who are members of the BPJS for Employment through 4 schemes, namely occupational accident insurance, death security, old age security, and pension security.

To answer the research objectives, this study used a quantitative research method with a logistic regression model, to determine the factors that influence the probability of agricultural sector workers becoming social security participants in the field of employment. The equation used is as follows:

$$\text{Logit}(Y) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \varepsilon$$

Logit (Y) is the Status of Participation in Employment Social Security (Yes/No), β_0 is Intercept, $\beta_1, \dots, \beta_8$ is the slope of the regression model, X_1 is UMR Wage (Wages above UMR=1/Wages below UMR=0), X_2 is membership in the National Health Insurance/ JKN program (Already a JKN participant=1/Not a JKN participant=0), X_3 is Gender (Male=1/Female=0), X_4 is Working Status (1=Formal, 0=Informal), X_5 is Marital Status (1=married, 0=not married), X_6 is Island of Residence (1=Java, 0=Outside Java Island), X_7 is Education Group (1=more than Senior High School/0=less than Senior High School), X_8 is work according to the collar (1=white collar/0=blue collar), X_9 is wage system (1= Monthly/2= Weekly/3= Daily/4= Wholesale/5= Paid per unit of output), X_{10} is status as head of household (head of household = 1/not head of household = 0) X_{11} is the category of using digital technology (using digital technology = 1/ not using digital technology = 0). The tests used are the statistical g test to examine the role of explanatory variables simultaneously and the Wald test to test the effect of the variable coefficients partially, while the odds ratio is used to interpret the binary logistic

regression equation. The odds ratio is the ratio of the chances of success and failure of the response variable.

The following is a logistic regression model or formula by adopting from Ghazali which is used to examine the hypothesis based on the variables to be studied namely:

$$Ln = \frac{P}{1-p}$$

$$= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \varepsilon$$

The probability determination in each research model is calculated by *Marginal Effect*. In the *Linear Probability Model* (LPM), the direction coefficient directly measures the change and probability of an event occurring as a result of a one-unit change in the independent variable, assuming the other independent variables are constant. The slope coefficient or regression coefficient measures the average change in the value of the independent variable if the other independent variables are constant.

In the logit variable, the direction coefficient of a variable shows the magnitude of the change in value in 'the log of the odds' due to a one-unit increase in the variable if the other variables are constant. In the logit model, the rate change in the probability of an event happening is given by $B_j \pi_i(1-\pi_i)$, where B_j is the partial regression coefficient of the independent variable or regressor to j . However, in calculating π_i , all the variables involved in the analysis must be included. Thus, all independent variables will be involved in the calculation of probability changes. Whereas in LPM, only the j th regressor is involved. To overcome this, in the logit model analysis, the marginal effect (dy/dx) is used to measure the variable of X to Y .

RESULT AND DISCUSSION

Descriptive statistics: a general description of variables

The participation of agricultural sector workers in employment social security is lower than workers in general. Agricultural sector workers who have occupational accident insurance amount to 11.4%, while those who have death security amount to 8.64%. For the Old Age Security/JHT and Pension Security/JP programs, the total number of workers who are members of the program is 16.11% and 13.23%, respectively. Of the total agricultural sector workers, almost an average of 85.98% do not have employment social security

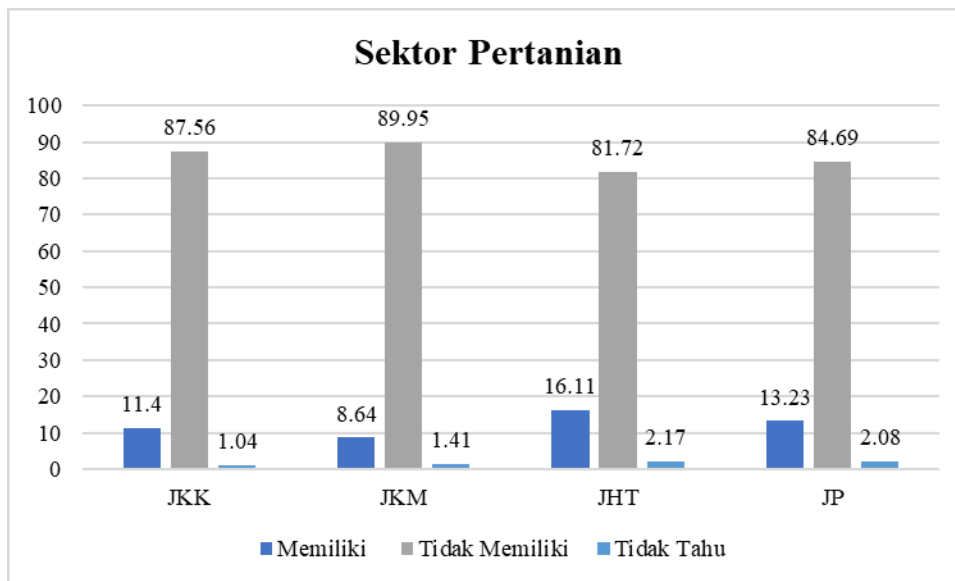


Table 1 shows the sample distribution of workers in all sectors and agricultural sector workers based on the socio-demographic characteristics in 2019. Eligible laborers in all sectors based on the Sakernas data

in 2019, dominated by non-social security participants, having wages below the UMR, non-JKN participants, male, formal sector worker, married, living outside Java, having less than high school education, blue collar, paid with a monthly wage system, non-head of the household, and does not use the internet in their work.

Socio-Demographic Characteristics	Agricultural Sector Workers	
	Percent	n
Based on Employment Social Security Participant Groups		
Employment Social Security Participants	16.02	5,441
Non-Employment Social Security Participants	83.98	28,526
Based on Wage Group		
Below UMR	77	26,155
UMR/Above UMR	23	7,812
Based on the JKN Participation Group		
Non-JKN Participant	83.95	28,514
JKN Participant	16.05	5,453
Based on Gender		
Female	26.43	8,978
Male	73.57	24,989
Based on Employment Status Group		
Informal	51.24	17,403
Formal	48.76	16,564
Based on Marital Status		
Not Married	23.98	8,146
Married	76.02	25,821
Based on Resident Island		
Outside of Java Island	76.6	26,018
Java Island	23.4	7,949
Based on Education Level		
Less than Senior High School	98.72	33,531
Higher Education	1.28	436
Based on Type of Work by Position		
Blue Collar	97.65	33,168
White Collar	2.35	799
Based on the Wages System		
Monthly Wages	23.2	7,880
Weekly Wages	12.56	4,265
Daily Wages	33.3	11,312
Piece Rate	5.85	1,986
Unit Output Wages	25.09	8,524
Based on Status in the Household		
Head of household	41.83	14,210

Non-Head of Household	58.17	19,757
Based on Internet Use in Work		
Using the Internet at Work	98.93	33,602
Not Using the Internet at Work	1.07	365

Meanwhile, in the group of agricultural sector workers in 2019. The sample distribution shows eligible agricultural sector workers based on the Sakernas data from August 2019, dominated by non-social security participants, having wages below the UMR, non-JKN participants, male, informal sector workers, married, living outside Java, having less than high school education, blue collar, paid a daily wage system, non-head of household, and do not use the internet in their work.

The Tendency of Workers to become participants in the Employment Social Security Program

The inferential testing result of the tendency of people working in the agricultural sector to become participants in the employment social security program by using binomial logistics is given in Table 3.1. The estimation is done partially as shown in the following table:

Table 1. Output Marginal Effect

The Probability of Workers Becoming BPJS for Employment Participants

Dependent Variable: Employment Social Security

(2)	
VARIABLES	Marginal Effect of Agriculture Sector
1.UpahUMR	0.0213*** (0.00303)
1.JKN	0.675*** (0.0175)
1.gender	0.00211 (0.00238)
1.Urban	0.00196 (0.00207)
1.statuskerja	0.0411*** (0.00328)
1.mar	0.000226 (0.00227)
1.pulau	-0.00454* (0.00241)
1.kel_geduc	0.00626 (0.00796)
1.collar	0.00961 (0.00618)
1.bulanan (Ref)	
2.mingguan	-0.0207*** (0.00456)
3.harian	-0.0327*** (0.00463)
4.borongan	-0.0202***

	(0.00627)
5.dibayar per satuan hasil	-0.0368***
	(0.00416)
1.kepalaRT	0.00472**
	(0.00220)
1.digitalisasi	0.0169
	(0.0116)
Observations	33,967

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

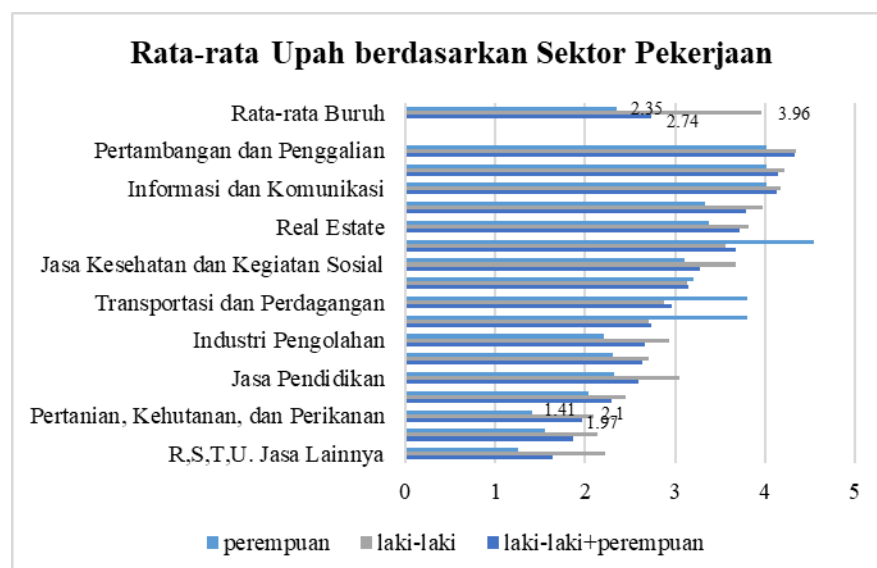
Source: Sakernas, 2019 (processed)

Based on the logistic regression results of the variables of gender, the origin of residence (urban), marital status, education, collar type of work, and the way of digitalization works do not significantly affect the tendency of agricultural workers to become participants in employment social security. This study will emphasize the variables that significantly influence the tendency of agricultural sector workers to access employment social security.

Wages for workers in the agricultural sector and the tendency to become BPJS Employment participants

For the agricultural sector itself, the tendency for workers with wages above the regional minimum wage to become BPJS Employment participants is higher, but with a small marginal effect value of 2.13%. This means that agricultural sector workers with wages above the UMR only have a 2.13% higher tendency to become BPJS Employment participants compared to workers with wages below the UMR. Finances can drive disincentives to extend coverage, regardless of a contributive, non-contributive, or mixed approach to social security. In this case, even though on the one hand, the need for social security mechanisms in the agricultural sector is quite high because there is an accompanying employment risk, there are still problems in implementing social security in the agricultural sector, especially in terms of finance.

Based on the BPS data 2021, the average wage/salary for workers/employees/staff a month ago, hereinafter referred to as labor wages, based on the result of the Sakernas August 2021 was 2.74 million rupiahs. The wages for male workers are 2.96 million rupiahs and the wages for female workers are 2.35 million rupiahs. Workers in the Mining and Quarrying category received the highest wage of 4.33 million rupiahs, while workers in the Other Services category received the lowest wage of 1.64 million rupiahs.



The agricultural sector is a sector with relatively low average wages and below the overall wage average. In 2021, labor wages in the agricultural sector would only reach 1.97 million with a considerable distance between males and females. Male workers in the agricultural sector in 2021 would reach 2.10 million, while female workers would reach only an average of 1.41 million.

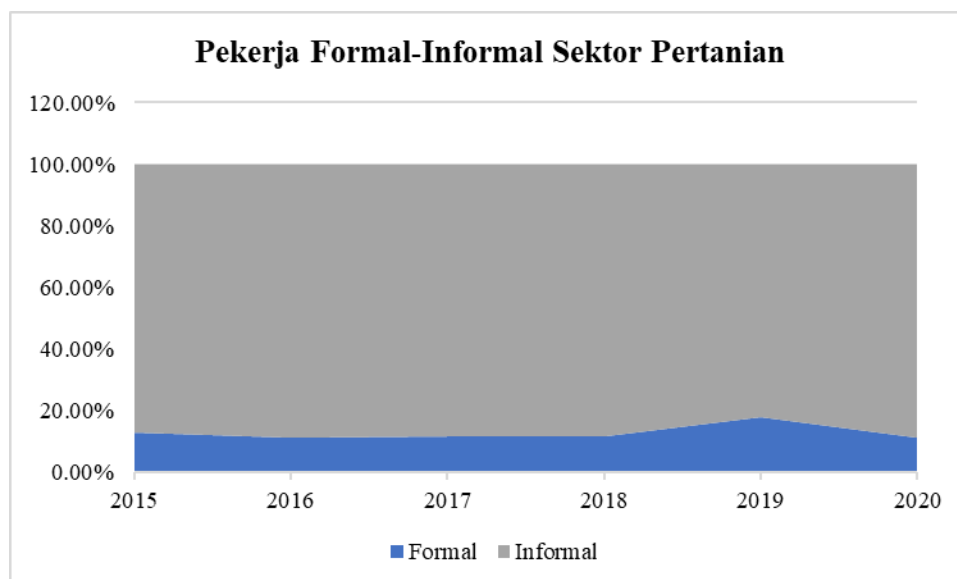
Relatively low wages in the agricultural sector compared to the average labor wage, causing the probability for workers above the Minimum Regional Wage to become BPJS Employment participants still tends to be low, although statistically the UMR Wages variable is influential and significant. The contribution schemes may be unaffordable for both employers and workers in agriculture, particularly self-employed or low-wage workers and small and medium-scale farmers in rural areas (ILO, 2020)

Ownership of the National Health Insurance Program for workers in the agricultural sector and the tendency to become BPJS Employment participants

The experience of being a BPJS for Health participant has a positive and significant influence on BPJS Employment participants. The participation variable in the National Health Insurance has a greater probability of becoming a BPJS Employment participant, compared to agricultural sector workers who are not participants in the BPJS for Health, with a relatively large marginal effect value of 0.675. This means that workers in the agricultural sector who are already participants of BPJS for Health have a 67.5% higher probability than agricultural sector workers who do not have BPJS Health to become participants of the BPJS for Employment. Although it has a higher probability, it cannot be concluded that workers in the agricultural sector consciously and actively participate in social security. This is because there is no further question as to whether agricultural sector workers are registered as Contribution Assistance Recipient participants, in which participation is automatically given by the government, or agricultural sector workers become independent participants in the form of PPU or PBPU.

Employment status of workers in the agricultural sector and tendencies to become BPJS Employment participants

Based on the result of the logistic regression of workers in the agricultural sector, there is a tendency for formal sector workers to be only 4.1% higher to become BPJS Employment participants than informal workers. Based on the condition of the informal sector labor in the agricultural sector in Indonesia, informal sector workers still dominate the work structure in Indonesia. In August 2021, the population working in informal activities was 77.91 million people (59.45 percent), while those working in formal activities were 53.14 million people (40.55 percent).



The agricultural sector has close relations with informal workers. The most common denominator of agricultural workers is their pervasive informality, which is one of the main barriers to accessing social protection. In 2020, agricultural workers working in the informal sector reached 88.57% or as many as 33.86 million, while the remaining 11.43% were formal sector workers, or 4.37 million.

Legal Barrier for Workers in the agricultural sector in Indonesia to Become BPJS Employment Participants

One of the barriers that informal workers in the agricultural sector face in accessing social security is their exclusion from social security schemes that are not covered by the legal framework. The inclusion of social security schemes into the legal framework makes it part of the social contract between the state and its citizens (Morlachetti 2016). An adequate legal framework establishes legally enforceable rights; defines institutional responsibilities; and provides transparency in program implementation, including eligibility criteria, registration process, the definition of benefits, and so on (Morlachetti 2016; ILO 2019c, Chap. 4). When social security schemes are covered by the law, it means that eligible people can make claims and get benefits. This protects citizens from social security discretion.

High levels of informality are both a cause and a consequence of the lack of social security coverage in the agricultural sector. Agricultural workers are explicitly excluded, either because of their place of residence or the sector of work. In some countries, applicable laws do not cover, or explicitly exclude workers in the agricultural sector. With a high level of informality in the agricultural sector, this has resulted in existing legal provisions tending to exclude workers in the agricultural sector.

Other legal exceptions relate to minimum thresholds for the duration of an employment contract, hours worked, or wages covered, as well as laws regarding the number of employees for businesses eligible to affiliate in social security schemes (ILO 2019; 2019). This contractual condition has an impact on the exclusion of those who work informally or work for small-scale businesses, including family workers. While excluded categories of workers are sometimes afforded the possibility to join voluntarily or by contribution schemes, such voluntary affiliation provisions rarely provide sufficient incentives to join, and are less likely to lead to significant increases in coverage.

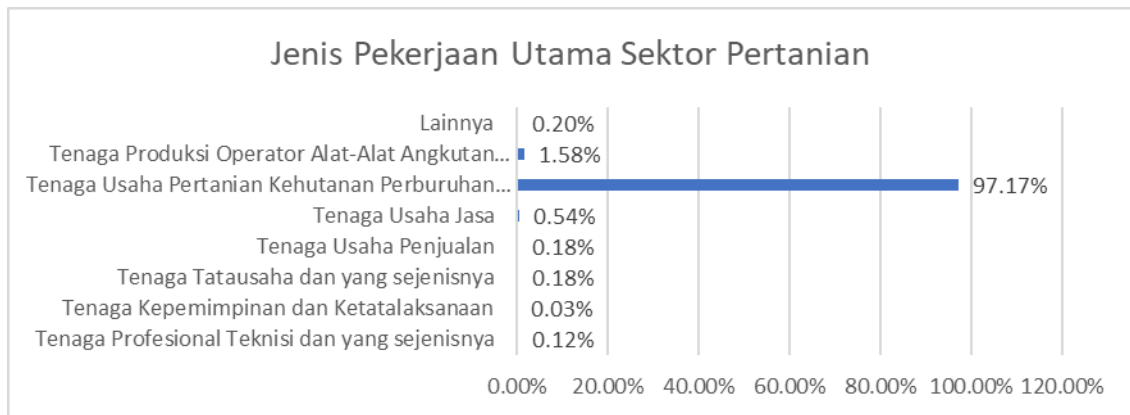
On the other hand, non-contribution schemes, especially social assistance schemes, have developed rapidly in the last two decades. Currently, almost all countries in the world have social assistance programs (World Bank 2015). However, in developing countries, many of these programs have been not yet based on legislation. With the absence of regulations, citizens cannot claim and enforce their rights and ask for accountability. Some social security schemes for the agricultural sector are included in national law, including the social pension scheme in the Philippines (Expanded Senior Citizens Act of 2010), Lesotho (Old Age Pension Act of 2005), Botswana, Mauritius, Namibia, Nepal, and South Africa. There is also the Bolsa Família program in Brazil and the National Rural Employment Guarantee Scheme in India (Ehmke 2015).

Resident Island

The regression result shows that the resident island variable is significant and influential on the participation of agricultural sector workers in BPJS for employment. Agricultural sector workers who live on Java Island have a lower probability of 0.45% than workers outside Java Island to become BPJS Employment participants. Considering this, there is no significant difference in the probability of workers becoming participants in employment social security between Java Island and outside Java Island, in other words, they have almost the same opportunity to become BPJS Employment participants.

Type of Main Work

For the agricultural sector, there is no significance and influence between white-collar and blue-collar workers in becoming BPJS Employment participants. The following is an illustration of the distribution of work types by position in the agricultural sector.

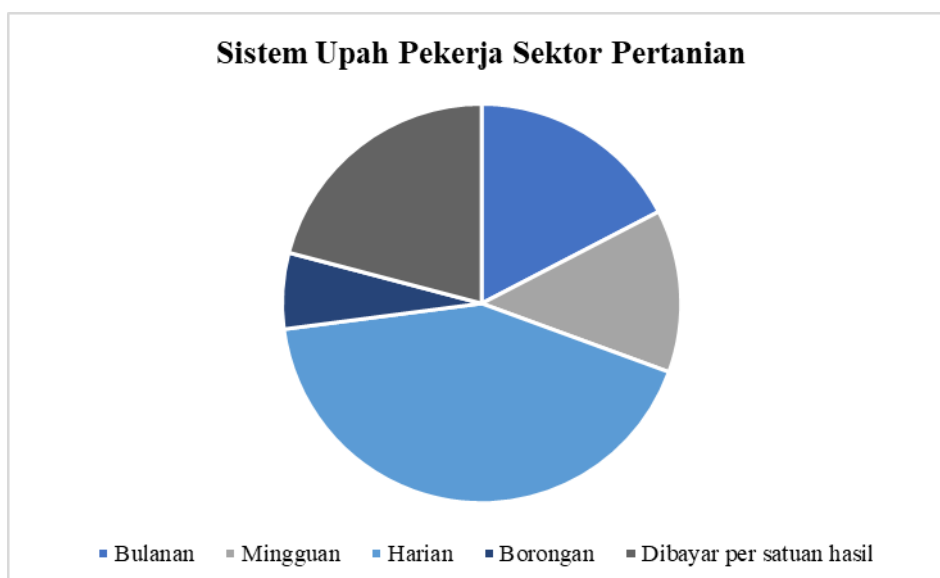


The majority of agricultural sector workers are those who work as blue collars. Based on the statistical data for 2020, agricultural sector workers who work as blue collars reach 99.49%. The classification of jobs based on the type of work (KBJI 2002) is carried out to see the position or type of work of those working in the agricultural sector. The categorization of white-collar and blue-collar is carried out to see the difference between agricultural sector workers with low and high skills. This research acknowledges the existence of unavoidable noise. With the illustration that salespeople in the agricultural sector might sell agricultural products using websites and virtual payment methods (requires high skills).

Wages System

In the context of social security, small farmers tend to have limited contribution capacity due to their low, uncertain, and seasonal incomes, while existing liquidity constraints can make rural communities prioritize other urgent risks. Poor rural residents and workers in the agricultural sector may have income patterns that make contributions unaffordable or impossible to comply with regular contribution schemes (Vinci, Hani, and Djeddah 2016).

Based on the result of the logistic regression, workers who receive a monthly return system have a higher probability of becoming BPJS Employment participants than those who have weekly, daily, and piece rate wage systems or those who are paid per unit of output. Specifically for the agricultural sector, workers who are paid weekly have a lower probability of 2.07 percent than those who are paid monthly to become social security participants. Whereas for those who have daily, piece rate, and paid per unit of output wage systems, each has a probability of 3.27%; 2.02%; and 3.68% lower than agricultural sector workers with a monthly wage system to become BPJS Employment participants.



Based on the Sakernas data from August 2019, almost 42.36% of agricultural sector workers receive daily salaries, and 20.90% are paid per unit of output. Meanwhile, 17.39% is paid monthly, 13.19% is paid weekly, and 6.15% is paid with piece rate system. This condition causes difficulties in adapting contribution collection timely due to income instability. Furthermore, a portion of the income received by agricultural workers is non-cash or in the form of goods and services. This has led many countries to exclude agricultural and casual workers from social security coverage (ILO 2019c). The frequently proposed solution to introducing fixed contributions is problematic, as such contributions often only generate benefits that may not be sufficient to meet societal needs and limit the scope of risk sharing (Allieu and Ocampo 2019; ILO 2019c).

Status of Head of Household

In general, the estimation result shows that status as head of households has a significant influence on the tendency of workers to become BPJS Employment participants. For the agricultural sector itself, the tendency of agricultural sector workers as heads of households to become participants in BPJS Employment is higher, but with a small marginal effect value of 0.00472. It means that agricultural sector workers and those as heads of households only have a tendency of 0.47% higher participation in BPJS for employment than those who work in the agricultural sector but are not the head of the household.

CONCLUSION

Agricultural sector workers are considered to have a lack of awareness of social security, and high costs and complexities from an administration standpoint for those living in rural areas in accessing social security. Nonetheless, it was found that the differences in trends between workers living in rural and urban areas are insignificant, this means that basically access to social security services does not have a big effect if it is based on the area of residence. The result of the logistical analysis actually shows that workers' participation in other social security programs (JKN) is the biggest factor in increasing the tendency of workers in general and in the agricultural sector to become participants of BPJS for employment.

Financial Barrier is another main issue in the implementation of social security for the agricultural sector. Although it is not the biggest determining factor, workers who have wages above the regional minimum wage have a higher tendency to become Employment Social Security participants. Furthermore, policymakers are faced with another financial challenge in including workers in agriculture, since 42% of agricultural workers are those who are paid daily, and 21% are paid in units of output. The estimation shows that workers who receive a monthly return system have a higher probability of becoming BPJS for Employment participants than those who have weekly, daily, and wholesale wage systems or those who are paid per unit of output.

The agricultural sector is also often associated with high labor market informality and large exposure to risk. Based on the estimation results, workers in the formal sector, plus workers who have high skills in the white collar category, have a higher tendency to become social security workers. However, in the agricultural sector, the placement of workers in white or blue collar does not seem to have a significant impact on their tendency to access employment social security.

The use of digital technology in work which is considered to be a proxy for someone who is literate in technology, based on the estimation results, in general, they have a higher chance of becoming BPJS Employment participants than those who do not use digital technology in their work. Meanwhile, for the agricultural sector, the digitization variable does not have a significant influence on one's tendency to become a participant in employment social security. This is due to the employment base of the agricultural sector in Indonesia which is not included in sectors with high digital intensity.

Recommendations for expanding participation for agricultural sector workers can be made with several alternatives, such as, (1) It is necessary to justify or adjust payment schemes for those who work with seasonal and uncertain wages. (2) To push the expansion of the scope of workers in the agricultural sector, BPJS for Employment can conduct program socialization in collaboration with BPJS for Health.

This is done because the participation of agricultural sector workers in BPJS for Health is relatively high, (3) It is necessary to encourage employers in the agricultural sector to register their workers in employment social security, with an approach that is adjusted to farmers' income patterns (seasonal).

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