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Abstract

Access to employment social security had a positive impact on workers by increasing work motivation and decreasing turnover, which in turn would encourage company effectiveness. However, workers generally had a lack of awareness and cost-complexities in accessing the employment social security program. The discussion of this study would focus on efforts around exploring the issue of factors that influenced the tendency or opportunity of workers to become participants in employment social security. Using the logistic regression method and Sakernas 2019 data, it was found that workers with salaries above the minimum wage, workers who already had health insurance, formal workers, those who lived outside Java Island, workers with monthly wages, heads of households, and those whose jobs had been digitized had a higher propensity to become participants in employment social security. However, the national coverage of workers who were members of the employment social security was still much lower than the health social security, therefore recommendations were needed to expand membership for workers in Indonesia such as (1) justifying or adjusting the payment scheme for those who worked with seasonal and uncertain wages. (2) encouraging the expansion of coverage, BPJS of Employment as a social security provider can conduct a socialization program in collaboration with BPJS of Health. This was done because the participation of workers in BPJS of Health was relatively high, (3) adjusting the contribution method of employment social security, with an adjusted approach to the existing wage pattern in Indonesia.

Keywords: social security; human resource management; management approach

INTRODUCTION

The labor market and human resource management have undergone significant changes over the past decades due to globalization and intense international competition. Therefore, JTUS, Volume 1 No. 4 May 2023 141

companies must have quick and appropriate solutions for various actions to reduce costs and increase their efficiency (Hellgren & Sverke, 2003). Transformations in human resource management have risen to new forms of work relations based on flexibility. This may potentially lead to workers' feelings of insecurity about actual jobs (Sverke & Goslinga, 2003). Job insecurity has been defined x the form of social security for workers may have an impact on organizational effectiveness. For instance, it can help companies attract and retain more capable employees, helping to increase work motivation (Baron & Kreps, 1999). Social security facilities for workers can ultimately increase satisfaction, maintain loyalty, retain frontline workers, improve service quality and prevent worker turnover (Dreher et al., 1988; Hom & Griffeth, 1994); these effects are more obvious in high-tech firms (Gionfriddo & Dhingra, 1999). Particularly, social security programs such as pension funds, and health insurance have led to a decrease in employee turnover. Pension coverage is associated with a greater reduction in turnover in large companies than in smaller ones; however, worker characteristics may eliminate the relationship between company size and labor turnover for workers who are not covered by pension plans (Even & Macpherson, 1996).

METHODS

The subjects of this study were members of Employment BPJS workers (employment injury security, death insurance, old-age security, and pension security) based on the data from the National Labor Force Survey organized by the Indonesian Central Bureau of Statistics in August 2019. The 2019 Annual Sakernas was conducted throughout Indonesia with a sample size of approximately 200,000 households, spread across 20,000 census blocks in all provinces in both urban and rural areas, and aimed to produce estimates up to the district/city level. Other data used in this study were also obtained from the collected and published data by the Central Bureau of Statistics, and BPJS of Employment related to employment social security programs.

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 was to see the characteristics of workers in all sectors who were members of the Employment BPJS through 4 schemes: employment injury security, death insurance, old-age security, and pension security.

To answer the research objectives, this study used quantitative research methods with logistic regression models to determine the factors that affect the probability of workers being participants in social security in the labor sector. The equation used was as follows:

Logit (Y) = $\beta 0+\beta 1Xi+\beta 2X2+\beta 3X3+\beta 4X4+\beta 5X5+\beta 6X6+\beta 7X7+\beta 8X8+\beta 9X9+\beta 10X10+\beta 11X11+\epsilon$

Logit (Y) was the Participation Status in Employment Social Security (Yes/No), β 0 was the Intercept, β 1 β 8 was the slope of the regression model, X1 was UMR Wage (Wage above UMR=1/Wage below UMR=0), X2 was membership in the JKN program (Already a JKN participant=1/Not a JKN participant =0), X3 was Gender (Male=1/Female=0), X4 was Employment

Status (1=Formal, 0=Informal), X5 was Marital Status (1=married, 0=not married), X6 was Island of Residence (1=Java, 0=Outside Java), X7 was Education Group (1 = more than SMA / 0 = less than equal to SMA), X8 was occupation by collars (1 = white collar / 0 = blue collar), X9 was the wage system (1 = Monthly / 2 = Weekly / 3 = Daily / 4 = Bulk / 5 = Paid per unit of output), X10 was the status as head of household (head of household = 1 / not head of household = 0) X11 was the category of digital technology use (using digital technology = 1 / not using digital technology = 0). The test used was the g-test statistic to examine the role of explanatory variables simultaneously and the Wald test to examine the effect of variable coefficients partially, while the odd ratio was used to interpret the binary logistic regression equation. Odd ratio is the ratio of the probability of successful to unsuccessful events of the response variable.

The following is a logistic regression model or formula by adopting from Ghozali which is used to test the hypothesis based on the variables to be studied as follows:

 $\label{eq:Ln=P/(1-p)} \ = \ \beta 0 \ + \ \beta 1 \ X1 \ + \ \beta 2 \ X2 \ + \ \beta 3 \ X3 \ + \ \beta 4 \ X4 \ + \ \beta 5 \ X5 \ + \ \beta 6 \ X6 \ + \ \beta 7 \ X7 \ + \ \beta 8 \ X8 \ + \ \beta 9 X9 \ + \ \beta 10 X10 \ + \ \beta 11 X11 \ + \ \epsilon$

The determination of the probability in each research model would be calculated by Marginal Effect. In the Linear Probability Model (LPM), the direction coefficient directly measured the change and probability of an event as a result of a one-unit change in the independent variable, assuming the other independent variables remained stable. The direction coefficient (slope) or regression coefficient measures the average change in the value of the independent variable if the other independent variables were fixed.

In the logit variable, the direction coefficient of a variable indicated the magnitude of the change in the value of 'the log of the odds' due to a one-unit increase in that variable if the other variables remained constant. In the logit model, the rate of change in the probability of an event occurring was given by Bj Pi(1-Pi), where Bj was the partial regression coefficient of the jth independent variable or regressor. However, in calculating Pi all variables involved in the analysis must be included. Hence, all independent variables would be involved in the calculation of probability changes. Whereas in LPM, only the-j regressor was involved. To overcome this issue, in the logit model analysis, the marginal effect (dy/dx) was used, in order to measure the X variable toward the Y variable.

RESULTS AND DISCUSSION

1. Overview of variables and logistic estimation

The sample of this research was workers in all sectors in 2019, with a research sample for all sectors totaling 214,818 people. Based on 2019 *Sakernas* data, the proportion of workers in Indonesia who did not have employment social security was greater than those who had employment social security.

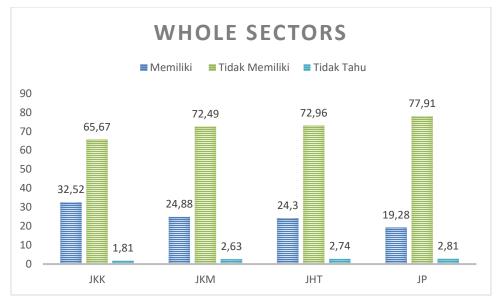


Figure 1. Proportion of Workers and Participation in Employment Social Security Based on Saker & Frith, (2019), workers in Indonesia who had employment injury security amounted to 32.52%; for workers who participated in the death insurance (JKM), old-age security (JHT), and pension security (JP) programs amounted to 24.88%; 24.30% and 19;28% respectively. The results of these calculations showed that more than 65% of workers did not join BPJS of Employment.

Table 1.

Sample distribution of workers in all sectors and agricultural workers based on socio-

Socio-demographic Characteristics	All Sectors	Workers
	Percentage	n
Based on Employment Social Security Participat	ion Group	
Employment Social Security Participants	34.03	73,106
Not an Employment Social Security Participant	65.97	141,712
By Wage Group		
Below UMR	54.48	117,032
UMR/Above UMR	45.52	97,786
By JKN Membership Group		
Not a JKN Participant	63.56	136,541
JKN Participant	36.44	78,277
By Gender		
Female	34.1	73,245
Male	65.9	141,573
By Employment Status Group		
Informal	17.81	38,264
Formal	82.19	176,554
By Marital Status		

demographic characteristics in 2019.

Socio-demographic Characteristics	All Sectors	All Sectors Workers Percentage n	
2 -	Percentage		
Not Married	29.6	63,591	
Married	70.4	151,227	
By Living Island			
Outside Java	64.21	137,934	
Java	35.79	76,884	
By Education Level			
Lower than SMA	76.73	164,839	
Higher Education	23.27	49,979	
Based on Job Type by Position			
Blue Collar	66.05	141,890	
White Collar	33.95	72,928	
By Wage System			
Monthly	60.36	129,665	
Weekly	12.89	27,691	
Daily	15.44	33,168	
Bulk	3.74	8,030	
Daily	7.57	16,264	
By Status in Household			
Head of Household	48.22	103,580	
Not Head of Household	51.78	111,238	
Based on Internet Usage at Work			
Using Internet at Work	14.56	31,283	
Not using Internet at Work	85.44	183,535	

All eligible sector workers based on *Sakernas* data in 2019 were predominantly nonparticipants in social security, had wages below the minimum wage, were not JKN participants, male, formal sector workers, married, lived outside Java, had less than a high school (SMA) education, blue collar, paid a monthly wage system, not the head of a household, and did not use the internet in their work.

From the general description of the data, it would then be obtained the tendency of workers in Indonesia to become participants in the Employment Social Insurance program. The results of inferential testing on the tendency of the working population to become participants in the employment social security program using binomial logistics were given in Table 4.2. Estimation was done partially as shown:

Table 2.

Output Marginal Effect Probability of Workers Becoming BPJS of Employment Participants

Dependent Variable: Social Security for Employment

	(1)
VARIABLES	Marginal Effect at All Sectors
1. UMR Wages	0.193***
	(0.00328)
1. <i>JKN</i>	0.764***
	(0.00282)
1. Gender	0.00450
	(0.00308)
1. Urban	0.0193***
	(0.00258)
1. Employment Status	0.126***
	(0.00348)
1. Marital Status	0.0325***
	(0.00265)
1. Island	-0.0141***
	(0.00259)
1. Education	0.0220***
	(0.00362)
1. Collars	0.0108***
	(0.00329)
1. Monthly (Ref)	
2. Weekly	-0.0345***
	(0.00456)
3. Daily	-0.0735***
	(0.00455)
4. Bulk	-0.0184**
	(0.00829)
5. Paid per Unit Yield	-0.0740***
	(0.00570)
1. Head of household	0.0217***
	(0.00314)
1. Digitalization	0.00775**
	(0.00335)
Observations	214,818
ndard errors in parenthe	eses *** p<0.01, ** p<0.05, * p

Source: Sakernas, 2019 (processed)

Based on the results of logistic regression, only the gender variable did not significantly affect the tendency of agricultural workers to become participants in labor social security. The following is an explanation of each variable in influencing the tendency of workers in Indonesia to become members of the Employment BPJS

Wage Mechanism

The first variable to be discussed was the wage level. Based on the logistic regression results in Table 2, generally, the estimation results showed that the wage level based on the UMR had a significant influence on the tendency to become BPJS of Employment participants. Workers who had wages above the UMR had a higher chance of becoming BPJS of Employment participants with a marginal effect of 0.193. This meant that workers with salaries above the minimum wage had a 19.3% higher chance of becoming the Employment BPJS participants than workers with salaries below the minimum wage. This condition was commonly attributed to the fact that financial conditions could generally drive disincentives to expand coverage, regardless of contributive, non-contributive, or mixed approaches to social security. In this case, although on one side the need for social security mechanisms was high due to the accompanying occupational risks, there were problems in implementing labor social security in sectors below the national average wage of workers, especially in terms of finance.

Ownership of the National Health Insurance Program: The major trigger for employment social security participation in Indonesia

The experience of being a BPJS of Health participant had a positive and significant influence on BPJS of Employment membership. The variable of participation in the National Health Insurance had a greater probability of becoming a BPJS Employment participant, compared to workers who were not BPJS of health participants, with a relatively large marginal effect value of 0.764. This meant that workers who were already members of the health BPJS have a 76.4% higher probability than workers who did not have BPJS Health to become participants of the Employment BPJS. With BPJS of health coverage that was already high in Indonesia, it was expected that in the future it would be able to motivate the participation of workers in the employment BPJS. In the end, good and synchronized coordination between social security organizers was needed.

The state of the informal sector workforce and the wage system for workers in Indonesia: Remains a barrier to workers' participation in social security employment

Formal sector workers had a higher tendency to become participants in employment social security. In general, formal sector workers had a tendency to become BPJS employment participants by 12.6% higher than those who worked in the informal sector.

Informal sector workers still dominated the employment structure in Indonesia. In August 2021, the population that worked in informal activities was 77.91 million people (59.45 percent), while those who worked in formal activities were 53.14 million people (40.55 percent). Compared to August 2020 and February 2021, the percentage of the population working in formal activities increased by 1.02 percentage points and 0.17 percentage points, respectively.



Figure 3. Number of Formal and Informal Workers in Indonesia

In August 2021, the majority of the working population had the status of laborers/employees/officers, namely 37.46 percent, while the least had the status of business assisted by permanent/paid labor, namely 3.09 percent. Compared to August 2020, the percentage decrease was mainly in the employment status of business assisted by non-permanent/unpaid labor, which was 0.93 percentage points. When compared to February 2021, the employment status that experienced a decrease in percentage was mainly in the employment status of business assisted by non-permanent/unpaid labor.

In terms of legal barriers, one of the obstacles informal workers face in accessing social security was their exclusion from social security schemes that were not covered by the legal framework. The inclusion of social security schemes in the legal framework made it part of the social contract between the state and its citizens (Morlachetti, 2016). An adequate legal framework established legally enforceable rights; defined institutional responsibilities; and provided transparency in program implementation, including eligibility criteria, enrollment process, benefit definitions and so on (Morlachetti, 2016). When social security schemes were covered by laws, eligible people could make claims and obtain benefits. This protected citizens from social security discretion.

The high level of informality became a cause and a consequence of the lack of social security coverage. Other legal exclusions related to minimum thresholds of employment contract duration, working hours or covered salaries, as well as laws regarding the number of employees for businesses eligible for affiliation in social security schemes (Izuagbe et al., 2019). Such contractual conditions had the effect of excluding those who worked informally or worked for small-scale businesses, including family workers. While excluded categories of workers were sometimes given the possibility to join voluntarily or with a contributory scheme, such voluntary affiliation

provisions rarely provide sufficient incentives to join, and tend not to lead to significant increases in coverage.

On the other hand, non-contributory schemes, particularly social assistance schemes, had grown rapidly in the last two decades. Today, almost all countries in the world have social assistance programs (Bank, 2015). However, in developing countries, many of these programs were not based on regulations. In the absence of regulations, citizens were unable to claim and enforce their rights and hold them accountable. Some of the agricultural social security schemes covered by national laws include social pension schemes in the Philippines (Puruganan, 2014) Lesotho Börsch-Supan (2005), Botswana, Mauritius, Namibia, Nepal and South Africa.

The high number of informal workers in Indonesia and the legal barriers they faced were closely related to their wage system. Based on the logistic regression results in Table 4.2, workers who were paid monthly had a higher probability of becoming Employment BPJS participants than those who were paid weekly, daily, bulk or piece-rate. Workers who were paid weekly had a 3.45 percent lower probability than those who were paid monthly to become social security participants. Meanwhile, those with daily, bulk, and piece-rate wage systems had a 7.35%; 1.84%; and 7.4% lower probability than workers with a monthly wage system of becoming Employment BPJS participants, respectively.

Socio-Demographic Characteristics: Determinants of Workers' Tendency to Participate in Employment Social Security in Indonesia

1. Gender

Based on the estimation results of Table 4.2, the gender variable was not significant to the BPJS of Employment membership. Although statistically insignificant, the ILO (2020) found that there were many gender gaps in access to social protection and security. Women with children tend to participate less than men. As mentioned above, women also mostly worked as family workers or unpaid work. This leads to a lower accumulation of contributions, which would then result in lower coverage rates, especially in old age (Messier et al., 2013).

2. Residential Category

The difference in the category of residence, generally, had a significant effect on the tendency of workers to become BPJS of Employment participants. Workers who lived in cities had a higher tendency than those who lived in villages, although with a relatively low marginal effect of 1.93%. Access to some unreachable rural areas could increase social security costs. According to ILO (2020) on the supply side, concerns over high administrative costs (network access) from communities and social security institutions could create barriers in rural coverage, remote and hard-to-reach areas, especially when there were difficulties in adopting technological developments. On the demand side, difficult regional affordability and lack of access to good infrastructure (due to damaged roads, transportation costs, and social stigma experienced by women who traveled alone) could also lead to the cost of accessing social protection being higher than the actual benefits (ILO, 2020).

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3. Marital Status

In general, the estimation results indicated that differences in the marital status of workers affected their chances of becoming Employment BPJS participants, where married workers had a tendency to become BPJS of Employment participants by 3.25% higher than those who were not married in becoming BPJS of Employment participants.

4. Head of Household Status

Overall, the estimation results showed that the status as a household head had a significant influence on the tendency of workers to become BPJS of Employment participants. Workers with the status of head of household had a higher chance of becoming Employment BPJS participants with a marginal effect of 0.217. This meant that a worker and a household head had a 2.17% higher chance of becoming an Employment BPJS participant than a worker who was not a household head.

5. Living Island

The regression results showed that the island of living variable was significant and had an effect on workers' participation in the employment BPJS. However, the probability difference was very small. In general, workers who lived on Javan Island had a lower probability of 1.41% compared to workers outside Java Island to become participants in the Employment BPJS. Considering this matter, the probability of workers participating in labor social security between the Java Island and the outside did not have a significant difference, in other words, they had almost the same opportunity to become BPJS of Employment participants.

6. Type of Main Jobs

Workers in white-collar jobs (Managers, Professionals, Technicians, Assistant Professionals and Administrative Workers) generally had a 1.08% higher probability than those in blue-collar jobs (Service and Sales Workers, Skilled Workers in Agriculture, Forestry & Fisheries, Processing Workers, Crafts-YBDI, Machine Operators & Assemblers and Manual Workers). Job categorization based on job type (Indonesia, 2015.) was done to see the position or type of work of those who worked. The categorization of white-collar and blue-collar was done to see the difference between workers with low and high skills.

7. Job Digitalization

People who used digital technology in their jobs, overall, had a 0.77% higher chance of becoming Employment BPJS participants than those who did not use digital technology in their jobs.

CONCLUSION

Although social insurance facilities have been shown in several studies to significantly reduce workers' turnover, increase motivation and company operational effectiveness, the existence of social insurance is still not fully enjoyed by all workers in Indonesia. In regards to human resource management, it is explained that individual characteristics can lead to different

preferences in decisions making related to job activities. This circumstance is then mapped through the results of estimating the tendency of workers in Indonesia to become participants in employment social security through economic, social as well as demographic variables.

In that regard, the financial barrier is another main issue in the implementation of employment social insurance. Despite not being the biggest determinant, workers with wages above the minimum wage have a higher tendency to become participants in employment social insurance. Further, policymakers are faced with the challenge of other financial factors such as Indonesia's varied wage system. Estimation shows that workers on a monthly wage system have a higher probability of becoming BPJS of Employment participants than those on a weekly, daily, bulk or piece-rate wage system.

Employment in Indonesia is also often associated with high labor market informality and great exposure to risk. Based on the estimation results, formal sector workers as well as workers who have high skills in the white-collar category, have a higher tendency to become participants in employment social insurance. On the other side, based on the estimation results of the use of digital technology in their job, which is considered to be a proxy for someone literate in technology, based on the estimation results, in general they have a higher chance of becoming BPJS of Employment participants than those who do not use digital technology in their jobs.

Furthermore, through the variable of workers' participation in health social insurance programs, the logistic analysis found that workers' participation in other social insurance programs (JKN) is the biggest factor in increasing the tendency of workers in general and in the agricultural sector to become participants in labor social security.

Finally, regarding with social demography, it can be concluded that those who are married, educated, head of household, and live in urban areas have a higher probability of joining the employment social insurance program.

According to the conclusions above, several points of policy can be recommended for the expansion of participation for workers which can be done with the following alternatives: (1) It is necessary to justify or adjust the payment scheme for those who work with seasonal and uncertain wages. (2) to encourage the expansion of coverage, BPJS of Employment as a social insurance provider can socialize the program in collaboration with BPJS of Health. This is done since the participation of workers in BPJS of Health is relatively high, (3) it is necessary to adjust the contribution method for employment social insurance, with an adjusted approach to the existing wage scheme in Indonesia.

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Journal Transnational Universal Studies (JTUS)

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