

# THE DOMINANT EFFECT OF RUBBER FARMER COMPLIANCE AS PBPU INCREASING THE COLLECTABILITY OF JKN CONTRIBUTIONS BY TESTING REGRESSION MODEL IN MUARO JAMBI CITY

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## Abstract

**Objective:** The Social Health Insurance Administration Body provides coverage to more than 80% of the total population, but non-payment of contributions is still an issue, particularly among independent PBPU participants, where non-compliance is at a high of 86.88% of total arrears. In 2019, there were arrears in Muaro Jambi Regency of 11.66% of all JKN participants. The aim of this study is to identify the main factors influencing compliance with paying contributions among rubber farmers as PBPU-Mandiri in Muaro Jambi Regency to improve the collectibility of Social Health Insurance Administration Body contributions. **Methods:** The study used a quantitative approach with a cross-sectional design and surveyed 75,437 rubber farmers as independent PBPU participants in Muaro Jambi Regency. A sample of 106 participants was selected using accidental random sampling, and data was collected through a questionnaire and analyzed using univariate, bivariate, and multivariate tests. **Results:** The study found that the distance to the payment location was the most significant factor affecting compliance with paying JKN contributions. **Conclusion:** The researchers recommend that the Social Health Insurance Administration Body increase its efforts to educate the public about the importance of paying contributions on time, introduce a variety of payment methods, and use social media to increase awareness of the JKN program

**Keywords:** Compliance, PBPU Mandiri, Distance to Place of Payment

## INTRODUCTION

National Health Insurance (JKN) is the government's effort to provide health protection guarantees that are given to everyone who has paid contributions or whose contributions are borne by the government. JKN consists of a membership of the Health Insurance Contribution Assistance Recipients (PBI JK) and non-PBI JK groups. Non-PBI JK participants consist of Paid Workers (PPU), Independent Non-Paid Workers (PBPU Mandiri), PBPU and Non-Workers (PBPU BP) owned by the Regional Government and BP<sup>1,2,3</sup>.

There are three main reasons for becoming JKN participants, namely protection, sharing, and compliance. Protection aims to provide health protection and maintenance to the community both for themselves, their families, and others<sup>4</sup>. Sharing aims as a form of concern for others, especially for people who are sick<sup>5</sup>. And compliance is proof of being an obedient citizen as citizen to become a participant that is universal in nature and also adheres to health service procedures and regularly pays contributions on time, namely no later than the 10th of each month<sup>6</sup>.

If the participant chooses the benefits of inpatient class I services, the amount of health insurance contributions that must be paid each month is IDR 160,000 (one hundred and sixty thousand rupiah) per person per month, for inpatient classes. for inpatient II

the contribution is IDR 110,000 (one hundred and ten thousand Indonesian Rupiah) per person per month and for inpatient class III is IDR 42,000 (forty-two thousand Indonesian Rupiah) per person per month<sup>7</sup>.

In the course of the Social Health Insurance Administration Body era from year to year, it often experienced a deficit, namely as much as IDR 8,5 trillion in 2014, as much as IDR 10,67 trillion in 2015, as much as IDR 11,55 trillion in 2016, as much as IDR 16,62 trillion in 2017, amounting to IDR 10,98 trillion in 2018, and IDR 11 trillion in 2020. The deficit was caused by several factors, including the low collectibility of contributions inversely proportional to the high burden of health insurance that must be borne, including the low compliance of paying contributions to independent PBPU participants who are at the highest level, namely 86,88% of all arrears of contributions (IDR 5,654,930,976,944,-)<sup>8</sup>.

Based on Social Health Insurance Administration Body data as of September 2021, the coverage of participants in Jambi Province is 74,66%, including 32,57% of PBPU Mandiri participants, while the coverage of JKN participants in Muaro Jambi Regency is 72,52% of the target of 95% set. The distribution of participants was 25,37% PBI participants, 7,52% PBPU PB, 19,85% PPU, and 19,33% independent PBPU. Meanwhile, data on arrears in 2019 in Muaro Jambi Regency was 11,66% (45,503 participants) of all JKN participants<sup>9</sup>.

Based on the theory of health behavior, there are several factors that can affect compliance with paying JKN contributions, such as age, gender, perception, knowledge, distance to the place of payment, as well as perception factors<sup>10,11,12</sup>. Based on this, researchers are interested in analyzing factors dominant in influencing the compliance of rubber farmers as PBPU-Mandiri in increasing the collectibility of Social Health Insurance Administration Body contributions in Muaro Jambi Regency. It is hoped that this will provide the latest information for stakeholders in understanding potential barriers to non-compliance in paying JKN contributions.

## **MATERIAL & METHODS**

The study determined the sample size using the Lemeshow formula, which resulted in 106 participants selected using an accidental sampling technique. The data was collected using a questionnaire, and underwent several stages of processing including editing, coding, entry, cleaning, and processing. To analyze the data, a bivariate test was conducted using the Chi-square statistical test with a significance level of 95% to determine the relationship between each independent variable and dependent variable. Additionally, a multivariate test was conducted using multiple logistic regression with a significance level of 95%.<sup>13,14,15</sup>. There is no treatment of humans (subjects) and objects (animals, plants, and so on) in research, ethics is not required in this research

## RESULTS

**Table 1: Frequency Distribution Of Overall Respondent Characteristics**

Variable	n	%
Age		
Adult	92	86.8
Elderly	14	13.2
Gender		
Male	52	49.1
Female	54	50.9
Income		
≥ IDR. 2.649.034,-	52	49.1
< IDR. 2.649.034,-	54	50.9
Knowledge		
Low	51	48.1
High	55	51.9
Number of Family Members		
< 4 people	51	48.1
≥ 4 people	55	51.9
Perception		
Good	46	43.4
Not Good	60	56.6
Distance of Place of Payment		
Affordable	27	25.5
Not Affordable	79	74.5
Obedience		
Obedient	49	46.2
Less obedient	57	53.8
Total	106	100.0

In this model, the Backward Wald method was employed in multiple logistic regression to obtain significant variables while disregarding insignificant ones<sup>16,17</sup>. This means that insignificant variables were eliminated in a step-by-step manner after entering all the explanatory variables into the model. The final outcome of this method was the identification of variables that were significant and appropriate for inclusion in the multiple logistic regression model<sup>18</sup>. Variables that were found to be significant were considered to have a significant impact on the response variable, which in this study was compliance with paying JKN contributions. The significance level used in the model significance test and coefficient significance was 0.05. The variables analyzed in this study included the dependent variable of compliance with paying JKN contributions and several independent variables, such as age, gender, number of family members, income, knowledge, distance to payment location, and perceptions<sup>20,21</sup>.

## Model Candidate

**Table 2: Candidates for the Multiple Regression Model Based on Compliance with Paying JKN Contributions with Age, Gender, Number of Family Members, Income, Knowledge, Distance to Place of Payment and Perception**

Variable	p-value	Information
Age	0.987	Not a model candidate
Gender	1.000	Not a model candidate
Income	0.033	Candidate Models
Knowledge	0.126	Candidate Models
Number of Family Members	0.418	Not a model candidate
Distance of Place of Payment	0.026	Candidate Models
Perception	0.042	Candidate Models

Table 2. shows that there are 4 (four) variables included in the candidate model ( $p\text{-value} < 0.25$ ), namely income ( $p\text{-value}$ : 0.033), knowledge ( $p\text{-value}$ : 0.126), distance to place of payment ( $p\text{-value}$ : 0.026), and perception ( $p\text{-value}$ : 0.042).

## Pseudo R Square Value

**Table 3: Pseudo R Square**

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	130.086 <sup>a</sup>	0.142	0.190
2	131.464 <sup>a</sup>	0.131	0.175

The table presented above shows the extent to which the independent variables can account for the dependent variable, as indicated by the Nagelkerke R Square value, also referred to as Pseudo R-Square. The Nagelkerke R Square value of 0.175 suggests that the independent variables can explain 17.5% of the dependent variable, while the remaining 82.5% can be attributed to other factors outside the model.

## Initial Modeling

**Table 4: Initial Multiple Logistic Regression Modeling**

Variable	Unstandardized Coefficient					
	B	S.D. Error	Wald	df	Sig.	Exp(B)
Income	-0.806	0.431	3.498	1	0.061	0.447
Knowledge	-0.505	0.430	1.376	1	0.241	1.403
Distance of Place of Payment	1.192	0.522	5.215	1	0.022	3.292
Perception	-0.710	0.439	2.619	1	0.106	0.491

## Final Modeling

**Table 5: Multiple Logistic Regression Final Modeling**

Variable	Unstandardized Coefficients					
	B	S.D. Error	Wald	df	Sig.	Exp(B)
Knowledge	-0.906	0.421	4.627	1	0.031	0.404
Distance of Place of Payment	1.170	0.517	5.126	1	0.024	3.223
Perception	-0.747	0.435	2.952	1	0.086	0.474

Table 5. shows that rubber farmers with low knowledge have a 0,404 times risk of not complying with paying contributions compared to rubber farmers with high knowledge (odds ratio = 0.404), rubber farmers with unreachable payment distances have a risk of 3.223 times not complying pay dues compared to rubber farmers with affordable payment locations (odds ratio=3.223), and rubber farmers with low perceptions have

a 0.474 times risk of not complying in paying dues compared to rubber farmers with good perceptions (odds ratio=0.474), so that that the variable distance to the place of payment is the variable that has the greatest influence on compliance with paying Social Health Insurance Administration Body contributions independently in Muaro Jambi Regency.

## DISCUSSION

The distribution of knowledge shows that the majority of respondents do not know the benefits of becoming JKN participants, especially at the referral level health services (58.49%), are not aware of the consequences if they are in arrears paying JKN contributions (79.25%), and do not know when to pay the contribution at the latest. JKN every month (62.26%). Knowledge is the outcome of being acquainted with a particular object, which arises from an individual's sensory perception. Without knowledge, individuals lack a solid foundation for resolving issues and making decisions. Health knowledge, on the other hand, pertains to knowledge concerning health, such as how to maintain good health, knowledge of healthcare facilities, methods for preventing diseases, and ways to safeguard oneself from the financial burden of illness. When an individual's knowledge regarding health is high, they tend to exert more effort to shield themselves and their families from sickness, including by ensuring themselves and their families get national health insurance in the form of insurance, both health insurance and private insurance<sup>22,23,24</sup>.

The distribution of perceptions shows that the majority of respondents felt that the services they received were less than optimal (80.19%), felt JKN contributions were too heavy to pay each month (66,98%) and felt there was a more important need than paying JKN contributions (59.43%). Perception refers to the process of arranging and comprehending the stimuli received by an individual to form a meaningful construct. It is a cohesive process that occurs within the individual. Some efforts that can be made to improve the perceptions of JKN participants are through efforts to improve the quality of Social Health Insurance Administration Body partners, raise public awareness of the importance of paying contributions on time<sup>25</sup>, and then for government officials to consider utilizing village funds as a mandatory source of funds for all assigned villages.<sup>26</sup> to help JKN contributions, especially for groups of people who are almost poor but are not included in the Integrated Social Welfare Data (DTKS)<sup>27,28</sup>.

The distribution of the distance to the place of payment shows that most of the respondents have a less accessible distance (74.5%). The availability of a place to pay JKN contributions at an affordable distance is a form of public service to fulfill the community's need to pay JKN contributions according to the class chosen<sup>29,30</sup>. However, due to the considerable distance and poor road conditions, many people are reluctant to leave the village to pay their JKN contributions on time<sup>31</sup>, so further introduction to the public is needed about the various choices of JKN contribution payment methods both offline and online, such as through the Social Health Insurance Administration Body office, Post Office, Indomaret, Alfamart, marketplace, and m-banking.

## CONCLUSION

The findings indicate that the primary factor that significantly influences adherence to paying JKN contributions is the distance to the payment location (OR=3.223). To enhance the public's comprehension of the JKN program and the significance of paying contributions on time, as well as to provide a variety of contribution payment options, it is recommended that the Social Health Insurance Administration Body should intensify its efforts to disseminate information and education, using various means such as social media.

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## Conflict of Interest

The Authors Declare No Conflict Of Interest

## Additional Information

There is no treatment of humans (subjects) and objects (animals, plants, and so on) in research, ethics is not required in this research.

## References

- 1) Presiden Republik Indonesia. Peraturan Presiden tentang Jaminan Kesehatan. *Pemerintah Republik Indonesia* 1–74 (2018).
- 2) Wiseman, V. *et al.* An evaluation of health systems equity in Indonesia: Study protocol. *Int. J. Equity Health* **17**, 1–9 (2018).
- 3) Kementerian Kesehatan Republik Indonesia. Panduan Layanan Peserta Jaminan Kesehatan Nasional Kartu Indonesia Sehat (JKN-KIS). *Riskedas* 2018,3, 103-111. *Kemendes* **2022** **3**, 103–111 (2022).
- 4) Hidayat, A. A. A. & Uliyah, M. The effect of the nursing care model based on culture to improve the care of malnourished madurese children in Indonesia. *Open Access Maced. J. Med. Sci.* **7**, 1220–1225 (2019).
- 5) Dommen, C. The right to health. *New Solut.* **13**, 27–33 (2003).
- 6) Williamson, L. Patient and Citizen Participation in Health: The Need for Improved Ethical Support. *Am. J. Bioeth.* **14**, 4–16 (2014).
- 7) Hidayat, A., Razak, A. & Indarty Moedjiono, A. Determinants Of Ability And Willingness To Pay National Health Insurance Contributions To Traders At Losari Beach. *J. Posit. Sch. Psychol.* **2022**, 2961–2970 (2022).
- 8) Adila Solida, Andy Amir & Dwi Noerjoedianto. Non-compliance Analysis of Independent Participants Paying BPJS Health Contributions After Utilization of Delivery Services. *Int. J. Heal. Sci.* **2**, 152–161 (2022).
- 9) Sciences, H. Department of Public Health, Faculty of Medicine and Health Sciences, Jambi University, Jambi, Indonesia. **4**, 215–223 (2022).
- 10) Sunjaya, D. K. *et al.* Factors Affecting Payment Compliance of the Indonesia National Health Insurance Participants. *Risk Manag. Healthc. Policy* **15**, 277–288 (2022).



- 11) Marpaung, F. V., Nyorong, M. & Moriza, T. Factors Affecting the Compliance of National Health Insurance Participants Segment of Non-Wage Recipients in Paying the Contributions. *J. La Medihealthico* **3**, 171–179 (2022).
- 12) Ikhsan, M. ikhsan akbar. Analysis Of The Causes Of JKN KIS Contribution Payment Arrears In The Working Area Of Kendari City 'Study At The Abeli Public Health'. *Indones. J. Heal. Sci. Res. Dev.* **1**, 54–66 (2019).
- 13) Van Den Broeck, J., Cunningham, S. A., Eeckels, R. & Herbst, K. Data cleaning: Detecting, diagnosing, and editing data abnormalities. *PLoS Med.* **2**, 0966–0970 (2005).
- 14) Kremelberg, D. Pearson's r, Chi-Square, T-Test, and ANOVA. *Pract. Stat. A Quick Easy Guid. to IBM® SPSS® Stat. STATA, Other Stat. Softw.* 119–204 (2014) doi:10.4135/9781483385655.n4.
- 15) Valveny, N. & Gilliver, S. How To Interpret Results of Multivariate Analysis. **25**, 37–42 (2016).
- 16) Kuonen, D. *Book Review: Regression modeling strategies: with applications to linear models, logistic regression, and survival analysis. Statistical Methods in Medical Research* vol. 13 (2004).
- 17) Arnild Augina Mekarisce, Dwi Noerjoedianto & Adila Solida. Multiple Logistics Regression Model, Dominant Factors Affecting Health Service Utilization for PBI Participants in Jambi City. *Int. J. Heal. Sci.* **2**, 145–151 (2022).
- 18) Zhang, Z. Model building strategy for logistic regression: Purposeful selection. *Ann. Transl. Med.* **4**, 4–10 (2016).
- 19) Zulfikar, R. Estimation model and selection method of panel data regression: An overview of common effect, fixed effect, and random effect model. *JEMA J. Ilm. Bid. Akunt.* 1–10 (2018).
- 20) Hosmer, D. & Lemeshow, S. *Applied Logistic Regression.* (John Wiley and Sons, 2000).
- 21) Kassim, M. & Ndumbaro, F. Factors affecting family planning literacy among women of childbearing age in the rural Lake zone, Tanzania. *BMC Public Health* **22**, 1–11 (2022).
- 22) Putri, G. D. Z. & Wahyudiono, Y. D. A. The Relation Between Knowledge and Attitude towards Behavior of Personal Protective Equipment Usage in Nurses. *Indones. J. Occup. Saf. Heal.* **10**, 170 (2021).
- 23) Rincón Uribe, F. A. *et al.* Health knowledge, health behaviors and attitudes during pandemic emergencies: A systematic review. *PLoS One* **16**, e0256731 (2021).
- 24) Fadhullah, W., Imran, N. I. N., Ismail, S. N. S., Jaafar, M. H. & Abdullah, H. Household solid waste management practices and perceptions among residents in the East Coast of Malaysia. *BMC Public Health* **22**, 1–20 (2022).
- 25) Siswanta, S. Utilizing Online Media To Raise Public Awareness About Public Health. *J. Litbang Sukowati Media Penelit. dan Pengemb.* **1**, 1–18 (2018).
- 26) Sundararajan, A. *The future of work. Finance and Development* vol. 54 (2017).
- 27) Kardeti, D., Gunawan, B., Rusyidi, B. & Azzasyofia, M. Perceptions of Beneficiary Families of Integrated Social Protection Services in Poverty Alleviation Through Center of Social Welfare (Puskesmas) (Case Study of Sabilulungan Integrated Service and Referral System (Slrt) Program in Bandung Regency). *Indones. J. Soc. Work* **4**, (2020).
- 28) TNP2K. Indonesia ' s Unified Database for Social Protection Programmes Management Standards. 3–4 (2015).
- 29) Yusriadi, Y. Public Health Services: BPJS Case Study in Indonesia. ... *Adm. Publik Public Adm. J.* **9**, 85–91 (2019).
- 30) Sartika, D., Razak, A. & Yunus, R. Utilization of JKN Mandiri Participants Health Services in Barru General Hospital since Achievement of Universal Health Coverage (UHC) Participation. *Int. J. Sci. Basic Appl. Res.* **47**, 1–11 (2019).
- 31) Dana Kharisma, D. Healthcare Access Inequity within a Social Health Insurance Setting: A Risk Faced by Indonesia's Jaminan Kesehatan Nasional (JKN) Program. *Bappenas Work. Pap.* **3**, 63–74 (2020).