

The Influence of Ability to Pay (ATP) and Willingness to Pay (WTP) on The Active Participation of Independent Participants in The National Health Insurance Program

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ABSTRACT: *Insufficient participation in the Independent of National Health Insurance program (Jaminan Kesehatan Nasional or JKN) may exacerbate the financial strain on the government and diminish the quality of healthcare services. Consequently, effective measures are essential to enhance public engagement in this program to bolster the sustainability of JKN and provide fair healthcare services. This study seeks to examine the impact of Ability to Pay (ATP) and Willingness to Pay (WTP) on the engagement of independent participants and to develop policy recommendations to improve the sustainability of JKN membership. The methodologies employed in this study originate from the findings of a national survey on Non-Wage Workers independent participants or Non-Wage Workers (PBPU) throughout 20 districts/cities in 10 provinces, conducted by Social Security Agency for Health (BPJS Kesehatan), constitute secondary data for this study. Logistic regression with cross-sectional data is employed to estimate the probability of participant activity, scored as 1 for active and 0 for inactive. Research findings indicate that both ATP and WTP exert a simultaneous and considerable influence on the engagement of PBPU participants in the JKN Program. Practical implications include consideration of participant's ATP attributes; immediate policy recommendations underscore the enhancement of data and the provision of payment flexibility.*

KEYWORDS: *ability to pay (ATP); National Health Insurance program (JKN); non-wage workers (PBPU); Social Security Agency for Health (BPJS Kesehatan); willingness to pay (WTP).*

I. INTRODUCTION

The National Health Insurance Program (JKN), administered by the Social Security Agency for Health (BPJS Kesehatan), seeks to guarantee fair access to healthcare services for all citizens. BPJS Kesehatan membership comprises two categories: Beneficiary of Contribution Assistance (PBI), which encompasses impoverished or incapacitated individuals whose contributions are subsidized by the government, and Non-PBI (Independent/Worker), which includes Wage Workers (PPU) such as employees and civil servants; Non-Wage Workers (PBPU) such as self-employed individuals; and Non-Workers (BP) such as investors or retirees.

BPJS Kesehatan classifies Non-Wage Workers (PBPU) as those who operate or conduct business at their own peril. PBPU participants must register themselves and their family members as shown on the family card (spouse/children/other relatives). Non-Workers (BP) are individuals who are not affiliated with the PPU, PBPU, or PBI Health Insurance groups, as well as inhabitants registered by the local government. PBPU and BP are frequently referred to as autonomous entities. Independent Participation pertains to Non-Wage Workers (PBPU) and Non-Workers (BP) who contribute without subsidies, significantly impacting the financial viability of this program. Their involvement is contingent upon the ability to pay (ATP) and the willingness to pay (WTP), which are impacted by economic conditions, education, and perceptions of the services.

Data from BPJS Kesehatan shows that the group with the highest contribution arrears is the Non-Wage Worker (PBPU) segment. This group experiences low compliance rates because many are still unaware of the need to pay their contributions regularly due to economic hardship [1]. Elements include the caliber of BPJS Kesehatan services, comprehension of insurance, and social support also affect WTP [2, 3]. A separate study indicated that income and educational attainment affect the community's readiness to pay JKN premiums [4].

The prevalence of independent participants has been rising annually. As of December 2025, JKN participation were 282.7 million, up from 278.1 million in 2024 [5]. By the conclusion of October 2024, over 56.8 million BPJS Kesehatan participants were inactive or delinquent, predominantly from the Non-Wage Workers (PBPU) or independent category. The figure signifies an activity rate of around 79.37% of the total registered population. Previous research indicates that public awareness of health insurance has grown [6]; nonetheless, the increase in premiums impacts participation in independent [7]. Insufficient participation in the Independent JKN may exacerbate the financial strain on the government and diminish the quality of healthcare services. Consequently, effective measures are essential to enhance public engagement in this program, so supporting the sustainability of JKN and ensuring equitable and just healthcare services.

Independent's membership in JKN is crucial for preserving the financial sustainability of Indonesia's health insurance system. Despite the rise in participant numbers, the difficulty of sustaining active engagement persists markedly. As of December 2024, over 16.9 million independent participants were inactive, mainly due to unpaid contributions, potentially exacerbating the financing shortfall and imposing a burden on the government. Comprehending the determinants that affect independent participation is essential for formulating methods to enhance participant engagement. Economic considerations, particularly ATP are the primary determinants of inactivity. Family income, employment type, and inconsistent income patterns influence individuals' capacity to make contributions. Elevated household costs render JKN premium payments a lower priority relative to other necessities, such as education and transportation.

In addition to economic factors, non-economic factors also affect the WTP. The perception of JKN services, educational attainment, and age are significant influences. Individuals with advanced education possess a superior comprehension of health protection benefits, whilst older demographics exhibit heightened awareness of the significance of health insurance. The efficacy of BPJS Kesehatan's communication, including payment reminders, contributes to enhancing participant compliance. The non-cut off Universal Health Coverage (UHC) status in many locations enables participants to remain engaged with expenses subsidized by the local government; yet, it may also diminish WTP due to the free rider phenomenon. This study seeks to examine the impact of ATP and WTP on the engagement of independent participants and to develop policy recommendations to improve the sustainability of JKN membership.

II. METHOD

This study will utilize secondary data from BPJS Kesehatan to examine the influence of ATP and willingness to pay WTP on the participation rate of independent participants PBPU in the JKN program. In the second semester of 2024, BPJS Kesehatan conducted a survey of both active and inactive Independent participants across 20 districts and cities in 10 provinces: Riau (Bengkalis Regency, Dumai City), Lampung (South Lampung Regency, Bandar Lampung City), West Java (Bogor Regency, Bogor City), East Java (Probolinggo Regency, Pasuruan City), Central Kalimantan (Katingan Regency, Palangkaraya City), South Kalimantan (Banjar Regency, Banjarmasin City), North Sulawesi (North Minahasa Regency, Manado City), South Sulawesi (Takalar Regency, Makassar City), Bali (Tabanan Regency, Denpasar City), and East Nusa Tenggara (Kupang Regency, Kupang City). The employed analytical approach is logistic regression utilizing cross-sectional data to assess the probability of participant engagement, designated as 1 for active and 0 for inactive.

This secondary data from BPJS Kesehatan offers a comprehensive and pertinent socio-economic overview, aiding in the comprehension of the financial capacities and attributes of individuals or families across different provinces and their impact on ATP and WTP. Factors will be categorized according to their impact on ATP or WTP, as determined by the literature analysis conducted from the survey results. The investigation will utilize cross-sectional regression to ascertain the link between the independent variables (ATP and WTP) and the dependent variable (activity of independent participants).

The attributes of secondary data are as follows:

- Data source: field survey data collected by BPJS Kesehatan.
- Population and sample: independent participants PBPU from 20 districts/cities across 10 provinces, so reflecting nationwide membership circumstances.
- Data type: Cross-sectional data encompassing socio-economic information and participants' impressions of the JKN program.
- Collected variables:
 - Dependent variable: Activity of independent participants (active = 1; inactive = 0).
 - Independent variables: economic factors (ATP) encompass 11 variables such as total family income, number of family members, type of business sector, income acquisition duration, expenditure on food and beverages, expenditure on cigarettes and other tobacco products, routine educational expenses, expenditure on installments, expenditure on savings, expenditure on household necessities (water, electricity, transportation, communication, household materials), and expenditure on recreational and social activities.
 - Non-Economic factors (WTP) comprise four variables: age, motivation for enrolling in the JKN program, educational attainment, and UHC non-cut-off status within the respective district or city of residence.

The gathered data will be subjected to a validation process to ascertain the validity and reliability of the survey instruments prior to subsequent analysis. To tackle the study problem formulation, a quantitative data analysis utilizing secondary data from BPJS Kesehatan is performed by multivariate logistic regression analysis.

Given that the dependent variable is dichotomous (active/inactive), logistic regression analysis is selected to assess the concurrent impact of independent variables on the probability of participant activity. The logistic regression model will assess the likelihood of active participants based on a combination of economic and non-economic variables. Statistical tools, including SPSS, Stata, or other pertinent applications, will be utilized to perform regression analysis and hypothesis testing.

A Focus Group Discussion (FGD) will be held to gather qualitative primary data. This Focus Group Discussion (FGD) will include 6 to 10 individuals from the primary business divisions at BPJS Kesehatan, specifically from the finance, membership, and service sectors, along with external experts in social security. This activity seeks to explore viewpoints, experiences, and contributions to inform the formulation of suitable policy recommendations, which will be derived from the study of secondary data.

2.1 Specification Model

This research uses a logistic regression model. This model was selected due to its capability to manage a binary dependent variable, specifically active or inactive, and facilitates the concurrent assessment of each factor's impact on the probability of independent participant's activity.

The specifications of the estimating model employed in this research are as follows:

$\ln [P/(1-P)] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k + \varepsilon$, where:

$P(Y = 1)$: Probability of active independent participants (active participants = 1).

• β_0 : Intercept or constant of the model.

• X_1, X_2, \dots, X_k : Independent variables denoting factors affecting ATP and WTP are as follows:

* ATP, comprising 11 variables:

X1: Aggregate familial income

X2: Count of familial members

X3: Business sector

X4: Timing of income acquisition

X5: Spending on food and beverages

X6: Expenditure on cigarettes and other tobacco products

X7: Standard educational expenses

X8: Expenditure on Installments

X9: Expenditure on allocated savings

X10: Spending on domestic necessities (water, electricity, transportation, communication, household supplies)

X11: Expenditure on recreational and social activities

* WTP, comprising four variables:

X12: Age

X13: Rationale for participating in the JKN program

X14: Educational attainment

X15: UHC non cut-off status in the residential district/city

• $\beta_1, \beta_2, \dots, \beta_k$: Regression coefficients quantifying the impact of each independent variable on participant activity. The regression coefficients that quantify the impact of each independent variable on participant activity.

2.2 Hypotheses Research

This study presents the following hypotheses based on the literature review and the conceptual framework presented in Chapter 2, which has been formulated into the logistic regression model above.

• H0: The combined effect of economic factors (ATP) and non-economic factors (WTP) does not significantly impact the dependent variable of the activity level of JKN independent participants.

• H1: The concurrent impact of economic factors (ATP) and non-economic factors (WTP) collectively considerably influences the activity level of JKN independent participants. The hypotheses will be evaluated using logistic regression analysis to ascertain whether these factors significantly affect the dependent variable.

The phases of data processing are executed methodically to guarantee the precision and dependability of the analytical outcomes, specifically:

1. Data collection and cleaning primary data acquired from surveys will be gathered and analyzed to identify input errors, absent values, and discrepancies. This cleaning procedure entails verifying for duplicate data and reclassifying variables based on analytical requirements.

2. Variable encoding and transformation variables are encoded based on the predetermined measurement scale (for instance, participant activity is designated as 1 for active and 0 for inactive; categorical variables are converted into dummy variables when required).

3. Logistic regression examination data processing is conducted via statistical tools. The logistic regression model is utilized to assess the impact of each independent variable on the likelihood of participant engagement. The coefficients, significance levels, and model fit will be thoroughly examined.

4. Analysis and presentation of findings The analysis results will be evaluated to ascertain whether the proposed hypothesis can be accepted or rejected. The results will thereafter be analyzed in conjunction with the literature review and the policy implications for BPJS Kesehatan.

5. Formulation of policy recommendations The findings will be examined collectively in a Focus Group Discussion with representatives from BPJS Kesehatan work units to gather qualitative primary data, serving as the foundation for developing suitable and effective policy recommendations aimed at enhancing the engagement of independent participants in the JKN program. The systematic execution of each phase is anticipated to yield a thorough analysis of the impact of ATP and WTP factors on the engagement of independent JKN members, along with suitable policy recommendations.

III. RESULTS

This study employs logistic regression analysis to investigate the impact of independent variables categorized as economic factors (ATP) and non-economic factors (WTP) on the dependent variable, namely the activity status of independent participants (PBPU) in the JKN program, as outlined in Chapter III. Utilizing the Maximum Likelihood Estimation (MLE) approach on 825 observations, the outcomes of the model feasibility test and parameter significance are as follows:

3.1 Model Feasibility Assessment (Goodness of Fit)

The accuracy assessment of the logistic regression model is determined by the Log-Likelihood value and the LLR p-value. The statistical analysis results (attached analysis output) yield the following values: • Log-Likelihood: -514.79 • LL-Null: -563.81 • Pseudo R-squared: 0.08694 • LLR p-value: 2.721×10^{-10} The LLR p-value of 2.721×10^{-10} is significantly lower than the significance level $\alpha = 0.05$. This signifies the rejection of H0 and the acceptance of H1. Consequently, it can be inferred that both economic variables (ATP) and non-economic factors (WTP) substantially affect the engagement of PBPU participants in the JKN program.

3.2 Incomplete Test Outcomes (T-Test) and Parameter Assessment

The partial test is performed to assess the impact of each independent variable on the dependent variable. The regression results indicate that, among the total factors examined, 8 variables significantly affect participant activity, comprising 5 ATP variables and 3 WTP variables.

TABLE 1 COMPREHENSIVE RESULTS OF LOGISTIC REGRESSION PARAMETER ESTIMATION

Categories / Variabels	Coefisien (β)	P-value	Note
A. ECONOMIC FACTORS (ATP)			
Total Family Income	1.419×10^{-8}	0.003	Significant (+)
Total Installments	2.989×10^{-7}	0.004	Significant (-)
Number of Family Members	0.3307	0.000	Significant (-)
Household Needs	1.912×10^{-7}	0.035	Significant (+)
Acquisition Period: Weekly Food and Beverages	1.7782	0.021	Significant (+)
Other Tobacco and Cigarettes	1.835×10^{-8}	0.657	No. Significant
Routine Education	3.933×10^{-7}	0.149	No Significant
Expenses Deposited Savings	1.662×10^{-8}	0.159	No Significant
Recreation and Social	1.775×10^{-8}	0.750	No Significant
JLU: Service and Field Workers	1.241×10^{-8}	0.925	No Significant
JLU: Professionals and Specialized Workers	1.1242	0.630	No Significant
JLU: Entrepreneurs and Traders	1.3699	0.327	No Significant
Acquisition Time: Daily	1.0140	0.961	No Significant
Acquisition Time: Seasonal	1.0170	0.932	No Significant
Acquisition Time: Irregular	0.0868	0.750	No Significant
Household Needs	0.0300	0.915	No Significant
B. NON-ECONOMIC FACTORS (WTP)			
Age	1.0232	0.001	Significant (+)
Reason: Others	0.8742	0.026	Significant (-)
UHC Non Cut Off Status (Yes)	0.4622	0.022	Significant (-)
Reason: Aware of Importance	1.1722	0.299	No Significant
Education: Completed Elementary School	1.1532	0.642	No Significant
Education: Graduated Junior High School	1.1008	0.780	No Significant
Education: Graduated Senior High School	1.4193	0.205	No Significant
Education: Graduated Diploma	1.6451	0.214	No Significant
Education: Graduated Bachelor	1.6810	0.105	No Significant
Education: Graduated Master/PhD	0.9539	0.407	No Significant

Source: Data by author (2025)

3.3 Regression Analysis

This section will offer a comprehensive analysis of the impact of each key variable on participant activity likelihood, classified by Ability to Pay (ATP) and Willingness to Pay (WTP).

3.3.1 The Impact of Economic Factors (Financial Capability)

The analysis indicates that the ability to pay (ATP) is a vital factor influencing participant engagement. Five ATP factors exert a substantial influence.

1. Aggregate Household Income

This variable exhibits a positive coefficient of 9.419×10^{-8} and a p-value of 0.003, indicating that an increase in total family income correlates with a higher probability of respondents being active. Assuming other variables remain constant, each increment of Rp1,000,000 in total family income enhances the probability (odds) of participants being active by approximately 9.87%. This research substantiates that economic capacity (income) is directly correlated with adherence to premium payments.

2. Aggregate Installments

Total installments exert a substantial negative effect, with a coefficient of -2.989×10^{-7} (p-value 0.004). This signifies that the debt obligation diminishes the disposable income allocated for JKN contributions. Each increment of Rp100,000 in total monthly installments is projected to reduce the likelihood of participant activity by roughly 2.94%.

3. Quantity of Family Members

This variable exerts a highly significant negative effect (p-value 0.000) with a coefficient of -0.3307. An increase in family members correlates with a greater economic burden, hence diminishing the priority assigned to health insurance contributions. An increase in family members correlates with a heightened economic burden, hence diminishing the importance of health insurance premium payments. This indicates that for each extra family member, the likelihood of the participant maintaining active status diminishes significantly by 28.16%.

4. Household Expenditure

The aggregate variable of household expenditure (including water, energy, transportation, communication, etc.) demonstrates a positive effect (coefficient 3.912×10^{-7} , p-value 0.035). The elevated routine expenditures may indicate the degree of welfare or the effectiveness of household financial management skills. The Odds Ratio indicates that for each increment of Rp100,000 in household expenditure, the likelihood of participant activity rises by around 3.99%.

5. Weekly Income Generation Period

The frequency of income receipt has demonstrated significant influence. Participants with weekly income exhibit a positive correlation of 0.7782 (p-value 0.021) in comparison to those with monthly income. Weekly cash flow is believed to enhance fund allocation for contributions in comparison to a monthly cycle. This study indicates that people with weekly income had 117.75% more odds of being active in comparison to those with monthly income.

3.3.2 The Impact of Non-Economic Factors (Willingness to Pay)

Alongside the capacity to pay, the willingness to pay, as shown by demographic traits and motivation, is also significant:

1. Age exerts a substantial favorable effect (coefficient 0.0232, p-value 0.001). As respondents age, their awareness of health risks increases, hence promoting adherence to contribution payments. Assuming all other variables remain equal, each extra year of age correlates with a 2.35% rise in the likelihood of becoming an active participant.

2. Justifications for Enrolling in the JKN Program The original reason for engagement influences the retention of participation. In contrast to the cohort that registered due to "Needed Services" (basic category), participants who enrolled for "Other" reasons (e.g., desire to donate, possessing surplus funds, or apprehension of sanctions) exhibited a negative coefficient of -0.8742 (p-value 0.026). Participants citing "Other" causes exhibit 58.28% diminished probabilities of maintaining activity relative to those who registered due to their awareness of need healthcare services.

3. Non-Cut Off UHC Status An intriguing observation is seen in the domicile variable. Individuals residing in regions with non-cut-off Universal Health Coverage (UHC) status exhibit a reduced propensity for activity (coefficient -0.4622, p-value 0.022) in comparison to those in areas lacking non-cut-off UHC status. Respondents in non-cut-off UHC locations exhibit 37.01% reduced odds of being active. This occurrence necessitates additional scrutiny, as it may suggest a notion of "ease of access" or a moral hazard element in regions that have already extensively ensured the involvement of their inhabitants.

3.4 Analysis of Research Findings

This discourse contrasts statistical (quantitative) data with qualitative insights derived from the Focus Group Discussion (FGD) featuring specialists from pertinent work units at BPJS Kesehatan (attached is the

FGD participant list) to furnish a more holistic perspective. Dynamics of ATP and financial obligation statistical findings indicate that total family income exerts a substantial beneficial influence ($p=0.003$).

The focus group discussion corroborated this finding, indicating that increased wealth elevates the likelihood of participants' engagement. Qualitative study, however, indicated that income is not the sole determinant.

1. Substantial Impact of Installments and the Online Loan Trend The Total Installments variable exhibits a substantial negative effect ($p=0.004$). The findings from the focus group discussion reveal that elevated installment payments are intricately linked to lifestyle choices and the accessibility of loans, including online loans and informal lending in rural regions with exorbitant interest rates. The Assistant Deputy for the Expansion and Compliance of BPJS Kesehatan Participants, a participant in the FGD, emphasized that numerous participants are exerting themselves to make contributions that do not correspond with the increase in their income. Consequently, discretionary income (real ATP) has significantly diminished due to debt erosion, leading to the neglect of JKN contribution obligations. This necessitates the recommendation for collaboration with the Financial Services Authority (OJK), whereby the history of JKN arrears may be incorporated into the OJK SLIK to promote compliance.

2. Financial Stability: weekly versus monthly income statistically, individuals with weekly income have a greater rate of active participation than those with monthly income ($p=0.021$). The FGD analysis attributes this anomaly to a cash flow management problem. Employees with monthly incomes frequently deplete their cash before to the contribution payment date (the 10th), owing to substantial expenditures at the month's outset. Conversely, weekly profits offer enhanced short-term liquidity, facilitating the allocation of cash for consistent contributions.

3.5 Willingness to Pay (WTP) and Participant Conduct

Non-economic considerations elucidate the concepts of Adverse Selection and Moral Hazard behavior including:

1. Age and the Adverse Selection Phenomenon

The age variable exerts a considerable beneficial influence ($p=0.001$). As age increases, individuals exhibit greater compliance in fulfilling their contribution obligations. The FGD talks affirmed this as a significant signal of Adverse Selection behavior. Older individuals recognize their health vulnerabilities and the necessity for medical care, resulting in a high Willingness to Pay (WTP). In contrast, the younger demographic often perceives themselves as healthy and delays payments (opportunistic conduct). The challenge of BPJS Kesehatan's public communication is to transition the narrative from just "gotong royong" to the recognition that "illness is ageless."

2. Non-Cut Off UHC Status and Ethical Risk

A notable discovery is seen in the Non-Cut Off UHC Status variable, which exerts a substantial negative influence ($p=0.022$). Individuals in regions that ensure Universal Health Coverage (UHC) are, in fact, less inclined to make independent payments. The FGD results indicated a tendency to "depend on" the government. Participants comprehend the system's "tips and tricks": if they become ill in the UHC Non Cut Off area, they can be promptly registered or covered by the local government without a waiting time. This engenders a Moral Hazard wherein individuals opt to forgo their contributions and delay enrollment until they require medical attention, subsequently transitioning to the PBI/PBPU Local Government section.

3.6 Examination of Negligible Variables

Numerous potentially crucial variables prove to be inconsequential in this model. The FGD data substantiate these findings:

1. Educational Attainment

The degree of education does not exert a substantial influence on activities. Experts in social security analyzed during the focus group discussion that, in the realm of health, immediate necessities surpass intellectual considerations. The recognition of the necessity to make contributions is more influenced by physical conditions, such as advanced age or disease, than by educational attainment. An individual with extensive education who perceives themselves as healthy may have a low willingness to pay, whereas an individual with limited education suffering from a chronic sickness will likely endeavor to make a payment.

2. Business Sector

The nature of the employment is inconsequential; rather, the critical factor is the income characteristics (regular or irregular) derived from that position, irrespective of the sector. Findings from the Focus Group Discussion, as articulated by an Analyst at the Deputy for Contribution Management of BPJS Kesehatan, underscore that persistent revenue instability has been the primary factor contributing to non-compliance during the last decade, irrespective of the business type.

3.7 Synthesis and Policy Implications

The analysis of quantitative and qualitative data indicates that the inactivity of PBPU participants is a multifaceted problem that involves both financial incapacity (ATP) and a poor willingness to pay (WTP).

ATP Issue: the concern extends beyond mere low income; it involves the erosion of disposable income due to lifestyle choices and financial obligations (installments). Immediate remedies for low ATP groups entail transitioning to the PBI category and/or PBPU through enhanced data purification in collaboration with the social service.

WTP Issue: characterized by opportunistic conduct and the belief that public services are devoid of stringent penalties. The FGD discussion advocated for the enforcement of stricter public service penalties (such as the detention of Driving License/Police Clearance Certificate or land administration prerequisites) and the incorporation of compliance data with the finance system to enhance WTP.

Data Reform: challenges arise in ascertaining income-based contributions due to ambiguous income data from the informal sector. The FGD recommended enhancing data collaboration with pertinent entities (Ministry of Population and Family Development, Ministry of Finance/Tax) to delineate a more accurate payment capacity.

IV. DISCUSSION

The research results show that the factors of Ability to Pay (ATP) and Willingness to Pay (WTP) significantly influence the activity of independent participants in the JKN Program. The factors that influence someone to decide to become an independent BPJS health participant are not only their own desire but also the availability of intensive information about BPJS, family support, and a supportive attitude toward BPJS [8,9]. The decision to become a self-participant in the JKN program is also determined by good knowledge and the ability to pay [10].

Independent participant is an individual awareness where participants consciously register for membership with their own finances without assistance or support from other parties. This has an impact on the discipline in paying the monthly contributions. In this study, an increase in family *income* is positively correlated with activity. The results of this study are in line with the previous research which reported a significant relationship between income and independent JKN participation [11,12]. Although there is a contradictory study conducted by other research which stating that there is no relationship between income and participation in the Independent BPJS Health program [13], this was not the case in this study. The ability to pay for independent BPJS is influenced by income, where the higher the income generated, the more timely the premium payments are made.

This study also informs that as age increases, the probability of activity significantly rises, indicating that the awareness of payment only emerges with the increasing health risks. This is reinforced by the statement of other study that a history of catastrophic illness and the number of family members also influence payment compliance and perceptions of the payment location [14]. Age also affects a person's decision-making, with a more positive perception being produced by someone who is older [15]. The results of this study also reveal something quite interesting, namely that the financial burden in the form of total installments and the number of family members actually become the main obstacles. The surprising finding in the research data is that participants with a weekly income pattern were actually more compliant compared to those with a monthly salary, indicating that informal sector participants can set aside funds for the JKN BPJS Kesehatan program contributions. This result is linked to previous research findings that show that generally, one form of active participation among the informal sector is thru the BPJS program with an average financing equivalent to class III category [16].

Another finding in this study is that education level and type of occupation do not significantly affect the willingness to pay (WTP). This is in line with several studies that found no relationship between education and an individual's compliance in paying health insurance premiums [17,12,18]. With the assumption stated by Novita *et al.* that a person's education will influence behavior, the lower the education, the more negative (non-compliant) behavior will be formed. [19] However, it turns out that this is not related to the compliance and willingness of participants to pay the JKN program contributions. The lack of a significant influence from the level of education is in line with previous research that shows no relationship between education and the willingness to become participants in the Health Insurance program [20]. As input for the better implementation of the JKN program, BPJS Kesehatan needs to consider other factors such as more intensive socialization and information, as well as the continuous maintenance and improvement of service satisfaction [18, 21, 22, 23].

V. CONCLUSION

This study finds that the engagement of independent participants PBPU in the JKN program is concurrently and significantly affected by the factors of ability to pay (ATP) and willingness to pay (WTP). From an economic standpoint, while a rise in family income is positively correlated with activity, significant data reveal that the financial load represented by total installments and the number of family members constitutes the primary impediments. This suggests that members' actual disposable income is diminished by debt obligations and dependents, frequently resulting in the neglect of health payments. Notably, participants

with a weekly income demonstrated greater compliance than those with a monthly salary, suggesting that short-term cash flow stability facilitates the ability of informal sector participants to allocate funds for contributions more effectively than the cumulative pressure of monthly expenses.

This study verifies the existence of significant adverse selection and moral hazard behaviors among the participants from a non-economic standpoint. As age advances, the likelihood of engagement escalates markedly, suggesting that the consciousness of payment arises solely with the escalation of health concerns. In contrast, participants living in UHC Non Cut Off areas exhibit inactivity, suggesting a tendency to postpone payments based on the belief that local governments will provide prompt assistance during illness. The discovery that educational attainment and occupational type lack significant influence underscores that the choice to engage in activity is determined not by social standing, but by the immediacy of medical requirements and financial resources available at that moment.

The inactivity of participants is not solely a consequence of structural poverty, but a multifaceted issue arising from lifestyle choices and expenditure preferences. The significant adverse effect of installments suggests that household financial distribution is predominantly focused on spending and debt rather than health protection. Consequently, the plan to enhance participation cannot be homogeneous; it must distinctly differentiate between those that are genuinely financially incapacitated and those who possess the means to contribute but opt to exploit the social security system due to inadequate implementation of penalties.

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