



# Analysis of Willingness to Pay Working Accident Protection for Online Motorcycle Drivers

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## *Authors' contributions*

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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## **ABSTRACT**

**Aims:** There are very few online motorcycle taxi drivers (informal workers) who are enrolled in the Work Accident Protection program, while online motorcycle taxi drivers have a high risk of work accidents. The purpose of this study was to determine the effect of income, last education level, and knowledge of the program on the Willingness to Pay (WTP) value of Work Accident Protection for Online Motorbike Drivers and to determine the value of WTP Work Accident Protection for Online Motorbike Drivers.

**Study Design:** This study used Ordinary Least Square (OLS) and Contingent Valuation Method (CVM).

**Place and Duration of Study:** The scope of this research is Go-Jek Motorcycle online drivers who are in Bandar Lampung for the 2022 time period.

**Methodology:** In this study, Survey was conducted on 100 online motorbike drivers in Bandar Lampung city to get the results of this study. This study uses qualitative methods. To find the

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determinants of variables using Ordinary Least Square (OLS) and used CVM to calculate WTP value.

**Results:** The results of this study are that the variables Income, Education, and knowledge about the program have a positive and significant effect on the Willingness to pay (WTP) value for Work Accident Protection. WTP value for Work Accident Protection is IDR 10,800.

**Conclusion:** Based on the regression results, it is found that the variables income, education, and knowledge about the program had a positive and significant effect on the WTP variable. Based on the results of calculations using the CVM method, the WTP value for Work Accident Protection is Rp. 10,800. BPJS Ketenagakerjaan must further increase knowledge about the program and benefits of Employment Social Security to increase the desire of workers to become participants.

*Keywords: WTP; CVM; working accident protection; income.*

## 1. INTRODUCTION

BPJS Ketenagakerjaan is an organizer of employment social security whose job is to provide social security protection for Indonesian workers, both formal and informal workers. BPJS Ketenagakerjaan has four programs, Work Accident Protection, Death Protection, Old Age Security, and Pension Protection. In the case of an accident, BPJS Ketenagakerjaan is responsible for covering medical costs for victims of work accidents. What is meant by work accidents are accidents that occur in a working relationship, including accidents that happen on the way from home to work or vice versa and illnesses caused by the work environment [1].

Working accident protection is a social security that protects the risks of accidents in work relationships, including accidents that occur on the way from home to work or vice versa and illnesses caused by the work environment. The benefits provided are health services, compensation in the form of money, return to work assistance programs, promotive and preventive activities, rehabilitation, scholarship compensation, replacement of glasses, hearing aids, and dentures. The contribution from the work accident protection program is 1% (minimum IDR 10,000) of the income reported by workers [2].

Online motorbike driver is one of the jobs in the informal sector that is in great demand in accordance with current developments and is one of the jobs that has a high risk of work accidents, it is because this job has to spend most of the time on the road and has uncertain working hours. The high risk can be a factor for workers to have Labor Social Security.

Based on Permenhub No. 12 of 2019 Chapter 15 concerning Safety Protection for Motorcycle

Users Used for the Benefit of the Community, the relationship between the application company and the driver is a partnership. This makes the online driver's status as an informal worker because the driver does not work under the company and is not paid a fixed monthly salary, the income is according to the partnership agreement, namely profit sharing.

**Table 1. Motor vehicle traffic accident data for 2017-2021 in Bandar Lampung city**

Year	Total traffic accident
2017	380
2018	338
2019	243
2020	283
2021	234

*Source: Polresta Bandar Lampung, 2022*

Accordingly, the application company is not required to register its partners in Social Security, so registration is the decision of each worker and contributions are also paid by the workers themselves.

From the Table 2, the number of informal workers registered with Work Accident Protection is only around 4.8% of the total number of informal workers in 2021.

**Table 2. Informal worker registered work accident protection (WAP) 2017-2021 in Bandar Lampung**

Year	Informal worker	Informal worker registered WAP
2017	165.014	12.917
2018	192.716	27.226
2019	186.347	14.818
2020	224.201	9.743
2021	215.774	10.385

*Source: BPJS Ketenagakerjaan, 2022*

**Table 3. Data number of active online motorcycle driver partners and average income per day at Go-Jek in Bandar Lampung City**

Company	Number of motorbike online drivers	Total average income/day
Go-Jek	6113	IDR 75.000

Source: Motorbike Online Drivers Comunity, 2022

The average income of online motorbike drivers in Bandar Lampung City is around IDR 2,000,000 to IDR 3,000,000 per month. The driver's monthly contribution is one of the factors that online drivers do not register themselves with the Work Accident Protection program. Therefore, the writer wants to know the value of willingness to pay work accident protection.

Willingness to Pay is the highest price that each buyer is willing to pay to get the benefits of an item or service, and to see how much the buyer appreciates the item or service [3].

CVM is one method to calculate the WTP value. CVM uses a direct approach which basically asks the public's willingness to pay (WTP) with an emphasis on individual preferences in assessing goods with an emphasis on standard value for money [4].

Amount of informal workers registered with work accident protection is very small compared to the number of informal workers. Meanwhile, informal workers have a high risk of work accidents. Therefore the author wants to know what factors influence online motorbike drivers so that they are not willing to pay to become participants in Work Accident Protection.

Research by [5] about Determinants of *Willingness to pay* for Health Protection in Germany-Results of the Population-Based Health Study of the Leipzig Research Centre for Civilization Diseases with CVM Methode found that Variables of age, income, social support and experience have an effect on WTP. The variables of friendliness and caution have no effect on the WTP.

Furthermore, research by [6] about Willingness to pay for National Health Protection Among MotorcycleTaxi Drivers in Depok City found that income, age, and knowledge about the benefits of national health protection affect the WTP of National Health Protection. This study used CVM to get the value of WTP.

Other research by [7] on Determinants of Willingness to pay (WTP) BPJS Health Contributions obtained the results of the last Education Variable having a positive effect on WTP, Income level variable having a positive effect on WTP.

**Table 4. Variables, symbols and units**

Variables	Symbols	Units
Willingness to pay	WTP	IDR
Income	I	IDR
Last Education	Edu	1-5
Knowledge About Program	KAP	1-4

## 2. METHODOLOGY

This study uses Contingent Valuation method with a qualitative approach and primary data, to analyze Willingness To Pay and use Ordinary Least Square(OLS) to determine the effect of Income, Last Education, and Knowledge About Program (KAP) to Willingness To Pay. This study used realibility and validity tests to assess whether the questionnaire was valid and realible or not. The scope of the research is driver online of motorcycle drivers online (Go-Jek) in Bandar Lampung City. The sampling technique used in this study was purposive sampling.

To determine the number of samples, the Slovin formula [7] was used:

$$n = \frac{N}{N(d)^2 + 1} n = \frac{6113}{6113(0,1)^2 + 1} = 98,39$$

Explanation:

$$\begin{aligned} n &= \text{Total Samples} \\ N &= \text{Population} \\ d^2 &= \text{Error term } 10\% = 0,1 \end{aligned}$$

The number om samples is 98,39 (rounded to 100)

The model Ordinary Least Square of this research analysis, as follows:

$$WTP = \beta_0 + \beta_1 I + \beta_2 Edu + \beta_3 KAP$$

Explanation:

$$\begin{aligned} WTP &= \text{Willingness to pay} \\ \beta &= \text{Parameter} \\ I &= \text{Income} \\ Edu &= \text{Last Education} \\ KAP &= \text{Knowledge About Program} \end{aligned}$$

To find out the WTP value using CVM is to use the formula:

$$EWTP = \frac{\sum_{i=1}^n W_i}{n}$$

Explanation:

EWTP = Estimated Average Value of WTP  
 $W_i$  = WTP Value number-i  
 n = Total sampel  
 i = Sampel number-i (i = 1, 2, 3, ... ,n)

$$TWTP = EWTP \times N_i$$

Explanation:

TWTP = Total WTP  
 EWTP = Estimated Average Value of WTP  
 $N_i$  = Total Population

### 3. RESULTS AND DISCUSSION

#### 3.1 Results

##### 3.1.1 Validity and realibility

In research using primary data, it is necessary to test the questionnaire used, to see whether the questionnaire is valid and reliable or not.

Based on the results of the validity test in the Table 5, it shows that the variables for education, income, and knowledge about the program have a significance value of <0.05, so these variables are valid.

**Table 5. Validity test results**

Variable	Significant value	Conclusion
EDU	0.000	Valid
I	0.000	Valid
KAP	0.000	Valid

**Table 6. Realibility test results**

Cronbach Alpha (CA) value	Criteria	Conclusion
1,46	CA Value > 0.6	Instrument Reliable

Based on the results of the Cronbach Alpha calculation, it was found that the result was 1.46 where the CA > 0.6, the instrument used was reliable.

#### 3.1.2 Estimation results

Based on the estimation results in the Table 7, the regression equation can be written as follows:

$$WTP = -9,72 + 0,0023I + 1,71EDU + 4,175KAP$$

Based on the results of data processing using a significant level of 5%, it was found that the variables Income, Last Education, and Knowledge of the Program had a significant effect on the number of WTP. Variations in the variables Income, Last Education, and Knowledge about Program are able to explain 57% of the WTP variation, and the other 43% is explained by variations in other variables outside the model.

#### 3.1.3 Willingness to pay value with CVM

Based on Table 8, the average estimated value (EWTP) of work accident protection for online motorbike drivers in Bandar Lampung City is IDR 10,800 per month.

Based on Table 9, the total willingness to pay (TWTP) of work accident protection for online motorbike drivers in Bandar Lampung City is IDR 66.020.400 per month.

#### 3.2 Discussion

Based on the results of the OLS regression, it was found that the income variable is positive and significant. It means that if there is an increase in income of 1%, it will cause an increase in the WTP value of 0.0023 assuming ceteris paribus. The results of this study are supported by previous research conducted by [8] which stated that if someone has an increasing income, the ability to pay contributions will also increase.

Education Variable is positive and significant. It means that if there is an increase in education by 1%, it will cause an increase in the WTP value of 1.71 with assume ceteris paribus. The results of this study are supported by previous research conducted by [9] which stated that respondents who have a higher level of education have a positive and significant influence to WTP.

The Knowledge variable about the JKK program has a positive and significant value, which means that if there is an increase in Knowledge about the JKK program by 1%, it will cause an increase

**Table 7. Ordinary least square regression results**

Variabel	Coefficient	Std. error	t-statistic	Prob	R-squared	Adjusted R-squared	F-Stat
C	-9,72	2,316	-4,197	0,0001	0,577	0,564	43,68
I	0,0023	0,001	2,767	0,0068			
EDU	1,71	0,607	2,813	0,0060			
KAP	4,175	0,634	6,589	0,0000			

in the WTP value by 4.175 assuming *ceteris paribus*. The results of this study are supported by previous research conducted by [10] which stated that knowledge about health services has a positive and significant effect to WTP.

**Table 8. WTP class, frequency and EWTP**

WTP class (IDR)	Frequency (Respondent)	EWTP (IDR)
5000	44	220000
10000	26	260000
15000	12	180000
20000	9	180000
25000	6	150000
30000	3	90000
	100	10800

**Table 9. Total willingness to pay**

EWTP	Jumlah Populasi	TWTP
10800	6113	66.020.400

Based on the results of the CVM Method, it was found that WTP value for Work Accident Protection for online drivers is IDR 10,800.00. In general, online motorbike drivers have the ability to make premium payments. Therefore, in the future, the government's role is needed to socialize programs and benefits of the Work Accident Protection program and clearer regulations about it [11].

#### 4. CONCLUSION

Based on the estimation results, it was found that the variables income, education, and knowledge about program had a positive and significant effect on the Willingness to pay Work Accident Protection variable for online drivers.

Based on the results of calculating the WTP value using the CVM method, the WTP value for Work Accident Protection for online drivers is IDR 10,800.00.

BPJS Ketenagakerjaan should further increase socialization regarding the programs and benefits

of Employment Social Security and services so that it can increase the desire of workers to become participants of Employment Social Security.

The limitations of this study are not analyzing by comparing formal workers and informal workers, as well as adding variables that are not used in this study so that more accurate and complete results can be obtained regarding the factors that influence WTP Work Accident Protection. So for further research, it is hoped to be able to add other variables and make comparisons between formal workers and informal workers.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

#### REFERENCES

1. Regulation of the Minister of Employment. Regulation of the Minister of Employment Number 5 of 2021 Concerning Procedures for Implementing Work Accideant, Death and Old Age Security Program; 2021.
2. BPJS Ketenagakerjaan. Working Accident Protection Program of BPJS Ketenagakerjaan; 2022.
3. Mankiw N. Gregory. Pengantar Teori Ekonomi Makro. Edisi Ketiga. Jakarta: Salemba Empat; 2006.
4. Hanley N, Splash CL. Cost-benefit analysis and environmental, England: Edward Elgar Publishing; 1993.
5. Hajek A, Enzenbach C, Stengler K, Glaesmer H, Hinz A, Röhr S, Stein J, Riedel-Heller SG, König HH. Determinants of willingness to pay for health protection in SS Germany—Results of the Population-Based Health Study of the Leipzig Research Centre for Civilization Diseases (LIFE-Adult-Study). *Frontiers in Public Health*. 2020;8(August):1–6.

- Available:<https://doi.org/10.3389/fpubh.2020.00456>
6. Oktora R. Willingness to pay for national health protection among motorcycle taxi drivers in Depok City, Indonesia. *KnE Life Sciences*. 2018;4(1): 190. Available:<https://doi.org/10.18502/cls.v4i1.1381>
  7. Aryani M, Muqorrobin M. Determinan Willingness To Pay (Wtp) Iuran Peserta Bpjs Kesehatan. *Jurnal Ekonomi & Studi Pembangunan*. 2013;14(1):44–57. Available:<https://doi.org/10.18196/jesp.14.1.1245>
  8. Graduate. *Population-Sample, Sampling Techniques & Bias in Research*. ANDI OFFSET. Yogyakarta; 2022.
  9. Hildayanti AN, Batara AS. Determinants of ability to pay and willingness to pay Mandiri BPJS Kesehatan Participant Contributions in Takabonerate District (Case Study in Selayar Islands Regency) Determinants of the Ability To Pay and the Willingness To Pay Subscription of BPJS Kesehatan on Independents in Takabonerate District (Case Study in Selayar Islands districts). 2021;11:30–37.
  10. Emalia Z. Public willingness to pay for the use of waste management services. 2016; 9(1).
  11. Hardika CP, Purwanti EY. Analisis willingness to pay Terhadap Iuran BPJS Kesehatan Pada Pekerja Sektor Informal Di Kota. 2020;9:131–143.

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