

# DERIVING INDONESIA'S VALUE OF STATISTICAL LIFE

## INTRODUCTION

Government institutions design programs to curtail fatality rate. Before implementation, a cost-benefit analysis is needed to appraise its profitability. While the cost refers to the required allocated resources, the benefit is the monetary impact in reducing the fatality rate or namely, the value of statistical life.

*The value of statistical life (VSL) is the monetary value placed by society on the reduced probability of death. It is essential in policy making as a reference point to balance the risk reductions with cost.*



## METHODOLOGY

*Wage is affected by a job's difficulty level, reputation, nature of workplace, including the inherent risk level.*

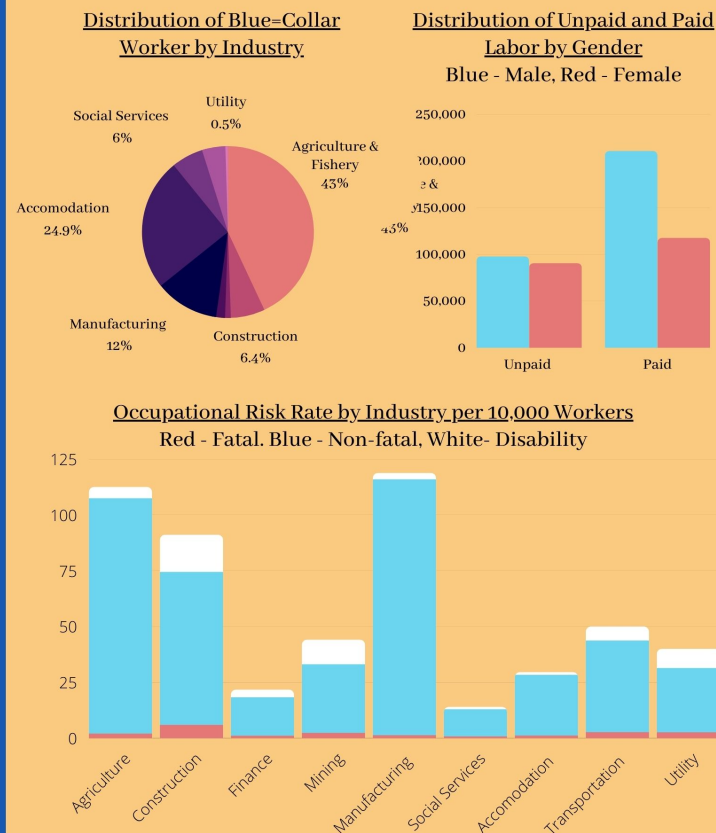
There is a positive relationship between wage and level of occupational risk rate from both the employers' and employees' side. Maintaining a safer working condition decreases the wage paid to employees. Yet, given identical job characteristics, employees will demand compensation in wage for an increase in risk level.

*This paper uses the hedonic wage model to estimate society's tradeoff between wage and occupational risk level.*

To identify wage differentials caused by difference in risk levels, this paper uses a multivariable linear regression model. However, there exists selection bias; individuals first determine whether to engage in paid or unpaid labor before choosing the available opportunities. To account for this, this paper incorporates Heckman's sample selection model.

## DESCRIPTIVE STATISTICS

The labor market data is drawn from the National Labor Force Survey collected by Statistics Indonesia in August 2019. The industry-level data of the occupational risk rate is obtained from Indonesia's Social Security Administrator for Labor Force (Badan Pusat Jasa Ketenagakerjaan or BPJS).



## RESULTS

Sample	Method	Occupational Fatality Rate	
		Coefficient	Standard Error
Employed	OLS	0.050 ***	0.004
	Heckman	0.053 ***	0.004
Blue-collar worker	OLS	0.056 ***	0.005
	Heckman	0.060 ***	0.005
White-collar worker	OLS	-0.085 ***	0.011
	Heckman	-0.092 ***	0.011

Note: \*p<0.1, \*\*p<0.05, \*\*\*p<0.01

## CONCLUSION

An additional incident of death per 10,000 workers increase the average wage by 5 - 6%. The coefficient of the fatal risk variable represents the increase in wage with an increase in fatality risk. This coefficient is then multiplied by the average annual wage and risk increments of 10,000 workers.

*Indonesia's value of statistical life is estimated to be around US \$950,000.*

This is in line with the existing literature.

## REFERENCES

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