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e-ISSN: 2682-7840

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Voice of Academia Vol.19 Issue (1) 2023

Voice of Academia

e-ISSN: 2682-7840

# EXPLORING THE DRIVERS OF POVERTY LINE INCOME IN MALAYSIA

# Nurhani Elisya Zainal<sup>1\*,</sup> Siti Aishah Salleh<sup>2</sup>, Nurrul Adilah Hasnorrul Hadi<sup>3</sup>, Nurul Izzaty Syazwani Roslan<sup>4</sup>, Amirul Hakim Abd Aziz<sup>5</sup> & Ahmad Syahmi Ahmad Fadzil<sup>6</sup>

<sup>1,2,3,4,5,6</sup> Faculty of Business and Management, Universiti Teknologi MARA Cawangan Johor, Kampus Segamat

# ARTICLE INFO

Article history:

Received Feb 2022 Accepted Aug 2022 Published Jan 2023

Keywords:

Poverty, Inflation, Income Inequality, Unemployment & Malaysia

Corresponding Author: 2019206304@student.uitm.edu.my

#### ABSTRACT

Back in 1977, Malaysia was a largely agrarian lowermiddle-income country, with a monthly gross national income (GNI) per capita of 200 Malaysian ringgit (MYR) at the time. That was the year that Malaysia set its first official monetary poverty line, estimating that a household required the equivalent of approximately MYR 50 per person each month to achieve a basic standard of living. Since then, Malaysia has prospered and its GNI per capita has risen to MYR 3,650 per month. an increase of 324 percent after adjusting for inflation. However, the inflation-adjusted poverty line has only increased 15 percent over the same time period. This research was conducted to study the determinants of the poverty line income in Malaysia. The determinants related are unemployment, income inequality and inflation in Malaysia. Accordingly, research used secondary data starting 2009 to 2019 from Thomson Reuters Datastream, Statista, and Department of Statistics Malaysia (DOSM). Eviews software was used to analyze the relationships of the determinants on the poverty line income. Results illustrated that inflation and income inequality have a positive significant relationship on the poverty line index. Recommendations were made in terms of education policy, financial aid, assistance from the government and recommendations for future research upgrade the standard and quality of living among the poor and lower-income group of people in Malaysia.

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# 1. Introduction

In 2020, the poverty rate of Malaysia increased to 8.4% due to the Covid-19 pandemic (FMT Reporters, 2021). According to Minister of Economic Affairs, Mustapa Mohamed, the pandemic had caused disruptions to people's income which led to many more households being exposed to poverty, especially for those in the B40 and most vulnerable categories (Thomas, 2021). However, despite the current issues, there is still inadequate evidence to identify the significant determinants of poverty in Malaysia. Hence, it is relevant to state that income inequality, inflation rate, and unemployment may contribute to poverty in Malaysia. Poverty is defined as a situation in which one's earnings from work are insufficient to meet fundamental human requirements (Chen, 2020). Understanding poverty solely in terms of economic disparity and calculating relative poverty thresholds makes it impossible to see poverty as anything other than unemployment, bad living conditions, and a low income. According to Malaysia's economic affairs minister, the Covid-19 epidemic increased the country's poverty rate to 8.4% in 2020. The poverty rate in 2019 was 5.6 percent. However, he noted in his concluding remarks at 2019 Malaysia Sustainable Development Goals (SDGs) webinar that Malaysia has been effective in controlling poverty and increasing the quality of life. The poverty rate fell to 5.6 percent in 2019 from 7.6 percent in 2016, according to the poverty line income methodology of 2019 (PGK 2019). The research purpose is to examine the determinants of poverty in Malaysia. In reality, in this research, we will use our data assessment system, which will include all important materials from this research, such as data from statistics, the official websites that stated the statistics for poverty and inequalities data, DataStream, and Eviews.

# 2. Literature Review

# 2.1 Inflation

Inflation refers to the rise in the prices of most goods and services of daily or common use, such as food, clothing, housing, recreation, transport, consumer staples, etc. Inflation measures the average price change in a basket of commodities and services over time (Desk, 2019). When inflation rises, the purchasing power of money will fall which will affect the standard of living of consumers who must spend more money to buy the same quantity of goods and services. It is measured by the consumer price index (CPI) that reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at predetermined intervals, such as annually (Inflation, 2018).

The Department of Statistics Malaysia (DOSM has released the new Poverty Line Income (PLI) which previously in 2016 was at RM 980, in 2021 the PLI surged to RM2,208 (DOSM, 2021). Taking into consideration the current minimum wage in Malaysia, which is currently at RM 1,200, people who earned below the PLI line would suffer the impact of poverty (Shah, 2021) as their minimum wage falls below the PLI. Furthermore, the CPI shows that the index rose to 124.00 points in November from 123.70 points in October 2021 (DOSM, 2021) which meant that the cost of purchasing a basket of goods is getting higher for the consumer. The main concern goes to the B40 group and below as they are the most vulnerable group to poverty and inflation impact. For instance, as reported in The Star online, the price of the famous bread manufacturer, Gardenia Bakeries had increased the price of 6 of their products. The new price for consumers includes RM2.80 for a loaf of Gardenia Original Classic 400g, up from RM2.50. The Gardenia Original Classic Jumbo 600g costs RM4, up from RM3.55, while a 400g loaf of Gardenia Bran & WheatGerm which was priced at RM2.50 increased to RM2.90 (Lee, 2021). Not only did Gardenia's price hiked up, but the price of chicken was also reported to increase between RM 9.90 and RM 10.30 (Sekaran, 2021).

(Kopp, 2021) (Cingano, 2014) (Senthilnathan, 2019) (Frost) (Michael Gaotlhobogwe, 2018)

# 2.2 Income Inequality

Inequality has to do with differences in the share of something between or among two or more persons. Income inequality is defined as the inequitable distribution of income among members of a particular group, an economy, or a society (Kopp,2021). Gender, globalization, educational attainment, and the country's technological level are some of the variables that contribute to inequality. Income inequality, according to Cingano (2014) is caused by differences in productive capacity across people or groups of individuals, which results in disparities in pay and income levels.

Researchers from local to international have conducted some useful studies on the link between income disparity and poverty, with the majority of their findings based on empirical research. Bourguignon (2004) conducted a rigorous analysis of the internal link between poverty, income disparity, and economic growth, concluding that lower inequality is favourable to reducing poverty. Wan and Zhang (2006) used Shapley decomposition to examine the influence of changing income disparity on poverty, concluding that the effectiveness of reducing poverty in rural areas was mostly due to increases in income as well as decreases in income disparity.

According to the Malaysian Department of Statistics (DOSM), in 2019, 42 percent of the population in Malaysia living in urban areas were experiencing urban poverty. Data released by DOSM lowincome residents in the city of Kuala Lumpur earn an income of 1500 ringgit per month where it is categorized as urban poor because it is below the Poverty Line Income (PLI) level. However, people living in the city of Kota Bharu, Kelantan are also considered urban poor if they earned RM1500 but it is still enough for individuals that have families.



# 2.3 Unemployment

Figure 1: Unemployed persons and unemployment rate, 1982 - 2020 and January 2021- February 2021 (Department of Statistics Malaysia Official Portal, 2021)

Unemployment refers to a situation when a person who is actively searching for employment is unable to find work. It is considered to be a key measure of the health of the economy. According to the Department of Statistics Malaysia (DOSM), the unemployment rate in June 2021 climbed to 4.8 percent (May 2021: 4.5%) after four consecutive months of decreases. The number of

unemployed persons escalated from 40.6 thousand persons (5.6%) to 768.7 thousand persons (May 2021: 728.1 thousand persons) (Mahidin, 2021).

In Malaysia, the poverty rate level is measured using the Poverty Line Income (PLI), which means that for Malaysian households with a monthly income of less than RM980 already considered as poor. Meanwhile for Sarawak, it is less than RM 1020 and for Sabah, less than RM 1180. Monthly income has been one of the factors that proved the contribution of unemployment and underemployment towards Malaysia's poverty. Many people live in poverty because they are unable to find a job that pays a living wage, or the household income gained fails to meet the prescribed poverty level by the government that led them to be categorized as poor. Furthermore, there is strong evidence that unemployment increases the risk of poverty and contributes to inequality, which leads to the rise of a series of debilitating social effects on unemployed people themselves, their families, and the communities in which they live (Saunders, 2002). Decades of research have amassed abundant evidence on the adverse impacts of unemployment on poverty-related outcomes (Renahy, 2018). Studies examining poverty-related outcomes report that the unemployed have a higher risk of experiencing poverty and material deprivation due to the loss of income and work-related benefits (Gallie, 2010).

# 3. Methodology

# 3.1 Research instrument

The instrument used in this paper is based on secondary data retrieved from secondary sources. Secondary data is the data that has been collected through primary sources and made readily available for researchers to answer research problems for future research and study. The sources that have been used for data collection consisted of Thomson Reuters Datastream, Statista, and Department of Statistics Malaysia (DOSM).

# 3.2 Research Model Framework

The framework of this study is shown in Figure 1. The independent variables are inflation rate, income inequality and unemployment, while the determinants of poverty rate in Malaysia is the dependent variable.



Figure 1: Theoretical Framework

# 3.2.1 Dependent Variable

A dependent variable is a variable that is influenced by the independent variables. According to the Corporate Finance Institution website, a dependent variable is what will happen as the results from independent variables. The dependent variable for this research is the determinant of poverty in Malaysia.

Table 1 below explain that the measurement of poverty in Malaysia. The measurement that the dependent variable use is Poverty Line Index (PLI). Malaysia has revised the national PLI of nationally in Malaysia from RM980 to RM2,208 per household. So, as a result, if there are any households that have monthly incomes below the PLI level are considered as poor.

Table 1: Measurement of Poverty

Dependent Variables	Measurement		
Poverty Rate	Poverty Line Income (PLI):		
-	RM2,208 nationally		
	*Households with monthly incomes below the PLI		
	level are considered poor.		

#### 3.2.2 Independent Variables

Independent variables are the factors that we expect will give influence to the dependent variable.

Table 2: Measurement of Inflation, Income Inequality and Unemployment

Independent Variables	Measurement		
Inflation Rate	(New inflation rate - old inflation rate) $\div$ Old inflation rate x 100		
Income Inequality	Gini coefficient = $A / (A + B)$		
Unemployment Rate	Where A is the area above the Lorenz Curve and B is the area below the Lorenz Curve. Number of unemployed people ÷ labour force		
	100 100 100 100 100 100 100 100		

#### 3.3 Method of Data Analysis

#### 3.3.1 Descriptive Analysis

Descriptive analysis is the type of analysis of data that helps describe, show or summarise data points concisely in a constructive way such that patterns might emerge that fulfil every condition of the data. It is one of the most important steps for conducting statistical data analysis (Thompson, 2009). It gives a conclusion of the distribution of data, helps detect typos and outliers, and enables similarities among variables, thus making further statistical analyses possible. The data was explained using mean, median, maximum, minimum, standard deviation, kurtosis, and skewness.

# 3.3.2 Correlation Analysis

Correlation is a statistical method that is used to discover if there is any relationship between two variables or datasets, and how strong that relationship may be (Samithamby, 2019). For the variables to have a positive relationship, they must obtain an R-value of more than zero. In addition, in order for two variables to have a perfect positive correlation, the R-value should be exactly +1 to show a positive relationship direction. On the other hand, if the R-value is less than zero, it signifies there is a negative relationship between the variables or datasets.

#### 3.3.3 Regression Analysis

Frost (n.d.) describes regression analysis as a set of statistical methods used for the estimation of relationships between a dependent variable and one or more independent variables. It can be utilized to assess the strength of the relationship between variables and for modelling the future relationship between them. There are various types of regression analysis, such as linear, multiple linear, and nonlinear. Simple linear and multiple linear models are the most frequent. Nonlinear regression analysis is typically used for more complicated data sets in which the dependent and independent variables show a nonlinear relationship.

#### 4. Results

#### 4.1 Descriptive Data Analysis

Table 3: Descriptive Analysis

	INCOME_I	INFLATION	POVERTY	UNEMPLO
Mean	0.415527	110.3355	273,2886	3,234545
Median	0.402700	110.4830	267.4750	3.250000
Maximum	0.446500	121.4830	368.4250	3.690000
Minimum	0.402700	98.32500	194.8500	2.880000
Std. Dev.	0.016834	8.286546	60.28554	0.228445
Skewness	0.764074	0.001273	0.222510	0.410689
Kurtosis	1.997668	1.640883	1.747972	2.616117
Jarque-Bera	1.530790	0.846636	0.809241	0.376763
Probability	0.465150	0.654870	0.667230	0.828299
Sum	4.570800	1213.691	3006.175	35,58000
Sum Sq. Dev.	0.002834	686.6685	36343.46	0.521873

**Notes**: The dependent variable is poverty. The independent variables are income inequality, inflation, and unemployment.

Table 3 shows the average or mean, median, maximum, minimum, standard deviation, skewness, and kurtosis of income inequality, inflation, and unemployment. The mean of poverty data is 273.29. When looking at standard deviation, the dispersion of poverty from its mean is 60.29. As for overall poverty, the highest value for poverty in 2019 was 368.43, while the lowest value for poverty in 2009 was 194.85. In addition, the median indicates the midpoint of discovering data value frequency distributions and the study reveals that poverty obtained 60.29 data frequencies. Moreover, the skewness of the poverty data is 0.22, suggesting that the distribution of probability is positive in value and showing a longer tail on the right of the distribution of the probability of the sample. The 1.75 kurtosis shows that the distribution is at a high peak relative to the average.

The mean of inflation data is 110.34. The standard deviation for the dispersion of inflation is 8.29. As for overall inflation, the highest value for inflation in 2019 was 121.48. Furthermore, the skewness of the inflation data is 0.0013, suggesting that the distribution of the probability is positive in value and showing a longer tail on the right of the distribution of the probability of the sample. The 1.64 kurtosis shows that the distribution is at a high peak relative to the average.

The mean of income inequality data is 0.42. When observing the standard deviation, the dispersion of inflation of its mean is 0.017. As for overall income inequality, the highest value for income inequality in 2009 was 0.45 while the lowest income inequality in 2019 was 0.40. In addition, the median value indicates the midpoint of a discovered data value frequency distribution and the study reveals that income inequality data is 0.76, suggesting that the distribution of the probability is positive in value and showing a longer tail on the right of the distribution of the probability of the sample. The kurtosis shows that the distribution is at a high peak relative to the average.

The mean of unemployment data is 3.23. When looking at the standard deviation, the dispersion of unemployment from its mean is 0.23. With respect to the overall unemployment, the highest value for unemployment is 3.69 in 2009 while the lowest unemployment in 2014 was 2.88. In addition, the median value indicates the midpoint of a discovered data value frequency distribution and the study reveals that unemployment data obtained 3.25 data frequencies.

# 4.2 Correlation Data Analysis

Table 4: Correlation Data Analysis

Covariance Analysis: Date: 12/06/21 Time Sample: 2009 2019 Included observation:	ə: 12:22			
Correlation t-Statistic Probability	POVERTY	INFLATION	INCOME I	UNEMPLO
POVERTY	1.000000			
INFLATION	0.993995 27.25236 0.0000	1.000000 		
NCOME_INEQU	-0.861102 -5.080926 0.0007	-0.901573 -6.251847 0.0001	1.000000	
JNEMPLOYMENT	0.093840 0.282767 0.7838	0.046502 0.139659 0.8920	0.251728 0.780313 0.4552	1.000000

**Notes:** The dependent variable is poverty. The independent variables are inflation, income inequality, and unemployment.

Based on Table 4, the probability measurement consists of inflation, income inequality, and unemployment. As for the inflation measure, it shows that the independent variable, which is poverty, has a very strong positive relationship with dependent variables as the value is 0.9939. The correlation shows a positive relationship between poverty and inflation. Also, the P-value is 0.0000 which is below 0.05, meaning it has a significant relationship with dependent variables.

The measurement of income inequality shows a negatively strong downhill correlation with dependent variables as the value is -0.86 whereas the correlation shows a negative relationship between poverty and income inequality. However, the P-value is 0.0007 which is below 0.05, meaning it has a significant relationship with dependent variables.

Last but least, the unemployment measurement shows a weak uphill correlation with dependent variables as the value is 0.094. However, even though the correlation shows a positive relationship between poverty and unemployment, the probability value is shown to be 0.7838 which is greater than 0.05, meaning that the independent variable of unemployment has no significant relationship with the dependent variable, the rate of poverty in Malaysia.

From the data above, we can conclude that not all the independent variables are determinants of the poverty rate in Malaysia. There are only two out of three independent variables that have a significant relationship with the rate of poverty which are inflation and income inequality. Meanwhile, the other variable which is unemployment is not significant as its probability value is over the level of significance that is 0.05.

# 4.3 Regression Data Analysis

Dependent Variable: PO Method: Least Squares	VERTY			
Date: 12/06/21 Time: 1	2:02			
Sample: 2009 2019				
Included observations: 1	1			
Variable	Coefficient	Std. Error	t-Statistic	Prob
С	-975.3689	173.8860	-5.609245	0.00
UNEMPLOYMENT	-3.629195	9.912694	-0.366116	0.72
INFLATION	8.606150	0.611324	14.07789	0.00
INCOME_INEQUALITY	748.0426	310.5995	2.408383	0.04
R-squared	0.994695	Mean dependent var		273.28
Adjusted R-squared	0.992421	S.D. dependent var		60.285
S.E. of regression	5.248145	Akaike info criterion		6.4289
Sum squared resid	192.8012	Schwarz criterion		6.5736
Log likelihood	-31.35903	Hannan-Quinn criter.		6.3377
F-statistic	437.5054	Durbin-Watson stat		1.4847
Prob(F-statistic)	0.000000			

Table 5: Regression Data Analysis

**Notes**: The dependent variable is poverty. The independent variables are income inequality, inflation, and unemployment.

Evaluation of regression is used to evaluate the relationship between two variables and to decide whether independent variables explain the dependent variable effect. The result for the regression analysis is shown in Table 5. Through analyzing the econometrics formula, the results obtained can be explained. The value used for the econometric equation is the value of the coefficient, so the econometric formula is as follows:

# Y1 = -975.3689 + 8.6062 (Inflation) -3.6292 (Unemployment) + 748.0426 (Income Inequality)

As per the equation above, two independent variables which are inflation and income inequality have a positive correlation with poverty as the dependent variable, while unemployment has a negative relationship with poverty.

The F-statistic value is 437.5054 based on Table 5, and the F-statistic p-value is 0.0000. The null hypothesis must therefore be rejected because the value has a significant level of less than 0.05.

On the other hand, the value of R-squared is 0.9947 which is 99.47 percent. It indicates that 99.47 percent of the variation in the determinant of poverty can be explained by the variation of the independent variables which are inflation, unemployment, and income inequality. Therefore, the 0.53 percent is explained by other factors that have not been explained in this study which only represents a small percentage of the factors that have not been discovered. The addition of other independent variables would help to explain more on the determinants of poverty in Malaysia.

Inflation is the first independent variable. The table shows that the inflation coefficient is 8.6062, which is 860.62%. This means that inflation shows a positive result. The probability value is 0.0000, which is less than the level 0.05. Thus, the null hypothesis should be rejected since the value is significant with the dependent variables.

The second independent variable is unemployment. Based on the table, the coefficient of unemployment value shows -3.6292 which is -362.92 percent. This means that unemployment shows a negative result. The probability value is 0.7251 which is more than the significance level 0.05. Thus, the null hypothesis should not be rejected since the p value is significant with the dependent variables.

Lastly is income inequality. Based on the table, the coefficient of income inequality is 748.0426. It means that income inequality shows a positive result. While the probability value is 0.0469 which means less than the significance level 0.05. Thus, the null hypothesis should be rejected since changes in probability ratio have significance with the dependent variable.

# 5. Discussion

This section discusses the results of the research and provides insight on the strategies that should be taken to diminish the poverty rate in Malaysia. Earlier research found that income inequality and inflation rate are the major problems that cause poverty in Malaysia. The Ministry of Human Resources Malaysia should take proactive action by increasing the minimum wage higher than the PLI. This strategy is prominent because the minimum wage in Malaysia is irrelevant to combat the inflation rate due to the rise in the CPI to 124.00 and the current minimum wage falls under the new PLI released in 2021 at RM2,208. In February 2020, the minimum wage was increased by RM 100 which became RM 1,200 (Ministry of Human Resources, 2020) and has remained unchanged until the current year. Despite the fact that the government has approved the increment, the poor people are still struggling to live as their purchasing power is shrinking due to

their minimum wages being insufficient to overcome the impact of inflation. Hence, we affirm that by urging the Ministry of Human Resources to increase the minimum wage will help to eradicate the impact of inflation towards poverty and eventually help in diminishing the poverty rate in Malaysia. Therefore, we believe that by making an amendment to increase the minimum wage to the same or higher level than the PLI would be revolutionary in countering the poverty issue that has been prolonged for decades as the people in the poverty group will gain better purchasing power as inflation no longer can affect them severely.

Another recommendation is for the Ministry of Agriculture Malaysia to introduce a community development program in rural areas as an initiative in combating poverty in the agriculture sector. As a suggestion, the government can support poor households through agricultural and industrial development as well as off-farm employment and solve their difficulties in relation to technology, capital, and marketing. This program can give awareness to farmers and targeted households to be involved in agriculture and provides job opportunities for poor and hardcore poor households to generate income and reduce the dependency on government aids. Subsequently, poverty can be reduced as the income inequality in rural areas can be suppressed through a well-managed community development program which improves the self-sufficiency level and enables the production of sufficient food for local consumption and generates income from export markets. We are certain that the existence of community development programs and agro-food policies for the agricultural sector can achieve the general goals and purpose of community development which can support the upgrading of household income and building community capacity in low-income areas by creating jobs, developing healthy communities, and connecting rural and urban areas.

The Education Ministry should invest in education development specifically in business studies the government can help poor households reduce poverty through strengthening education. The measures include providing free high school or a vocational school education and living allowances for students from designated poor families to gain knowledge on business for free. The Education Ministry can promote agricultural knowledge and business management as a core subject in the education system to encourage and enable young people to develop their own businesses. For instance, countries like Nigeria and Kenya have tried to tackle this problem by equipping children with entrepreneurial skills while they are still at school (Gaothobogwe & Du, 2018). This means that when such children find themselves in a situation where they are unemployed, they do not give up and succumb to self-pity. Instead, they are able to use their skills to create new opportunities as entrepreneurs to reduce the income inequality gap. According to Behr (2019), general expenditures on education development could help to decrease poverty and inequality. When Malaysians have a higher level of education and high skills, it will reduce the inequality in wages. Only 5% of young adults from the bottom income quintile have a bachelor's degree, compared to 40% from the top quintile. Additionally, 84% of Malaysians with a bachelor's degree are in the middle and upper-classes (Desk, 2019). This supports the argument that higher education leads to higher income. However, not everyone has the opportunity to receive higher education. Therefore, the government should strive to make higher education as accessible as possible without abandoning quality standards.

# 6. Conclusion

It can be concluded that inflation and income inequality are the most significant factors that affect poverty in Malaysia. However, there is no relationship between unemployment and the poverty rate in Malaysia. This research is important because understanding poverty levels is important for a country in generating policies, targeting development initiatives, and monitoring and evaluating economic progress over time (Orshansky, n.d.). Based on the data finding, inflation rates have a very close relationship with poverty. A country with high inflation is likely to have high poverty rates as well. Poverty and inflation are linked due to the fact that money has value, and its value can grow or diminish. Poverty is a lack of financial resources, leading to an inability to afford basic needs. In other words, as the cost of basic needs increases, the amount of financial resources necessary to afford those needs also increases (Reese, 2021). The best strategy to reduce poverty due to income inequality is for the government to strengthen their policy by promoting agricultural knowledge and business management as core subjects to encourage young people to develop their own businesses. For example, Nigeria and Kenya have equipped children with entrepreneurial skills while they are still at school (Gaotlhobogwe & Du, 2018). When Malaysians have a higher level of education and high skills, it will reduce the inequality in wages.

Meanwhile, the best strategy that we would like to suggest to overcome poverty due to inflation is for the Ministry of Human Resources Malaysia to take proactive action by increasing the minimum wage higher than the PLI. This strategy is prominent because the minimum wages in Malaysia is irrelevant to combat the inflation rate due to the rise in the CPI to 124.00 and the current minimum wage falls under the new PLI released in 2021 at RM2,208. The minimum wage was increased by RM 100 which became RM 1,200 (Ministry of Human Resources, 2020) and has remained unchanged until now. Hence, we believe that by making an amendment to increase the minimum wage to the same or higher level than the PLI would be revolutionary in countering the poverty issue that has been prolonged for decades as the people in the poverty group will gain better purchasing power and inflation no longer can affect them severely.

This research should prove to be particularly valuable to the study of poverty-related areas in Malaysia. Future research should conduct a more conclusive and extended periods of observations with additional potential variables. Additionally, this study is important in furthering our understanding of the role of macroeconomic drivers on poverty line income in Malaysia.

#### Acknowledgments

We thank the anonymous reviewers for their useful suggestions.

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ISSN: : 1985-5079