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The Effect of City/District Minimum Wages on Poverty Levels: A Case Study of the Special Region of Yogyakarta in 2010-2019

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Abstract: Poverty is still a complex economic problem in every country, especially in developing countries like Indonesia. One of Indonesia's provinces with a high poverty rate is the Special Region of Yogyakarta (DIY), which amounted to 11.44% in 2019. This figure is the highest in Java and even higher than the national poverty rate of 9.82%. The high level of poverty is in line with the regional minimum wage of the DIY Province, which is the lowest in Indonesia, which is less than Rp. 1.6 million per month. This study then analyzes the minimum wage at the poverty level in the Province of DIY. The method used in this research is panel data with Fixed Effect Model (FEM) for all districts/cities in DIY Province from 2010-2019. By controlling for variables such as economic growth, education, and health, the results of this study indicate that the minimum wage has a negative effect on poverty levels in the Special Region of Yogyakarta. Therefore, to accelerate poverty reduction in the DIY Province, the provincial and district/city governments must review the minimum wage calculation annually.

Keywords: Poverty; Minimum wage; Panel data; Yogyakarta

JEL Classification: J31; I32; R11

Introduction

Poverty is one of the problems in the economy that requires serious alleviation efforts. It is because poverty is one of the inhibiting factors for creating social welfare. Poverty is usually described by the inability of families or communities to meet basic needs, lack of access to education and health services, and lack of commercial capital because they do not have collateral. In addition, poverty also causes damage or degradation of natural resources, which, if left unchecked, will lead to a scarcity of natural resources (Tukiran et al., 2010). Poverty is even passed down across generations on an ongoing basis.

As a developing country, Indonesia's poverty rate has declined over the last five years in terms of number and percentage. Based on the Central Statistics Agency (BPS), the number of poor people in Indonesia in 2014 was 28.28 million, with a poverty rate of 11.25%. This figure continues to decrease to 24.79 million people, with a poverty rate of 9.22%. This high poverty rate is not only faced at the national scale but also at the regional level, in this case, the province.

As a province known as a student city with the second-highest human development index (IPM) in Indonesia after DKI Jakarta Province, the Special Region of Yogyakarta (DIY) has the highest poverty rate in Java, which was 11.44% in 2019. It is still higher than the national figure of 9.22% in 2019. The high poverty level in the DIY Province is allegedly related to the low minimum wage in the DIY Province. The minimum wage in DIY Province is the lowest among other provinces on Java Island, as shown in Table 1.

Table 1 Minimum Wage for Java Island Province in 2019

No.	Province	Minimum Wage
1	DKI Jakarta	Rp. 3,940,972
2	Banten	Rp. 2,267,990
3	West Java	Rp. 1,668,372
4	East Java	Rp. 1,630,059
5	Central Java	Rp. 1,605,396
6	In Yogyakarta	Rp. 1,570,922

The latest data from the Central Statistics Agency shows that the minimum wage for DIY Province in 2019 was only Rp. 1,570,922. Before 2016, the minimum wage in DIY Province was even less than IDR 1 million per month. Since 2016, the minimum wage in DIY Province has passed the Rp. 1 million/month mark with an increase of around Rp. 100,000 every year. It is suspected that the adjustment of the minimum wage to the nominal cannot keep up with the annual inflation rate in the DIY Province, which ranged from 2% to 7% over the last ten years, so the poverty rate in the DIY Province is allegedly not experiencing much decline considering that the addition of the minimum wage is not proportional to the increase in the cost of living every year.

This study examines how significant the minimum wage's role is on the poverty level in the DIY Province. Several previous studies have examined the effect of the minimum wage on poverty levels, but the coverage is still at the national level or the scope of certain islands. Ningrum's research (2017), for example, analyzes the effect of the provincial minimum wage on poverty in Indonesia. The results of this study indicate that the regional minimum wage has a negative impact on poverty levels in Indonesia. Between 2011 and 2015, each 1% increase in the provincial minimum wage is associated with a 1.3% reduction in Indonesia's poverty rate.

Meanwhile, Susanto's (2014) research states that the minimum wage does not affect poverty in Java. Like Kalimantan Island, the minimum wage did not affect poverty through open unemployment (Gung et al., 2020). So far, no similar research has been applied with case studies for a particular province, DIY Province, with the latest data for the district/city level. Some of the previous literature discussing the poverty rate in the DIY Province focused on economic variables other than the minimum wage, such as inflation (Purnomo, 2019), the open unemployment rate (Riasati, 2018), and the human development index (Salsabila et al., 2022).

Prastyo's research (2010) discusses the factors influencing poverty levels in Central Java Province with case studies of 35 districts/cities from 2003 to 2007. Using a fixed effect regression model on panel data, every 1% increase in the minimum wage reduces the

poverty rate by 0.276%.

This figure is not much different from the research by Sutikno et al. (2019), which found a decrease in the poverty rate in North Sulawesi by 0.341% for every 1% increase in the minimum wage. It is different from the research of Islami and Anis (2019), which found that the provincial minimum wage affected Indonesia's poverty rate during 2012-2017. A 0.09% increase in poverty follows every 1% increase in the regional minimum wage. The three studies have similarities with this study, using the fixed-effect model approach. Another study with a different method was conducted by Rukmanasari (2021), in which the findings with the Ordinary Least Square (OLS) method show no effect of the minimum wage on poverty in Wajo Regency, South Sulawesi.

This research is conducted on a different object. So, it can give a different perspective to the respective literature in the same field. Even the variables used in the research come from various literature, which can provide new insight.

Research Method

This study uses panel data analysis from five regencies/cities in DIY Province, namely Sleman, Bantul, Kulon Progo, Gunungkidul, and Yogyakarta, from 2010 to 2019, sourced from the Central Statistics Agency and Bappeda DIY. This study uses several control variables such as gross regional domestic product, average years of schooling as a proxy for the education variable, and life expectancy as a proxy for the health variable to determine the effect of the minimum wage on poverty levels. The econometric model used in this study is as follows:

$$TK_{it} = \alpha + \beta_1 \log(PDRB)_{it} + \beta_2 (RLS)_{it} + \beta_3 (AHH)_{it} + \beta_4 \log(UMK)_{it} \quad (1)$$

Keterangan:

TK: Poverty level; i: Regency/city; t: Year; α : Intercept; β_{1234} : Coefficient; PDRB: Gross Regional Domestic Product; RLS: Education (Average years of schooling); AHH: Health (Life Expectancy); UMK: City/Regency Minimum Wage

This study uses a fixed-effect model in analyzing panel data as similar research conducted by Prastyo (2010) in all districts/cities in Central Java. In the fixed-effect approach, intercepts can be distinguished between individuals because each individual is assumed to have its characteristics. The selection of this fixed effect model is based on the fact that each district/city in the DIY Province has its features regarding its socioeconomic status. The panel data of this fixed-effect model can be estimated using a dummy variable technique which helps find and capture intercept differences.

Result and Discussion

Table 1 shows the results of the regression with the fixed effect model. Every 1% increase in the district/city minimum wage is associated with a decrease in the average poverty rate of 4.15% in the DIY Province at a significance level of 1%. This figure is greater than the results of research by Sutikno et al. (2019) in North Sulawesi Province, where every 1% increase in the minimum wage is associated with a 2.31% reduction in poverty. These results indicate that poverty reduction is elastic for every increase in the minimum wage in DIY Province. There is a more significant reduction in poverty for each increase in the minimum wage. This finding indicates the effectiveness of policies on increasing the minimum wage to reduce poverty.

Table 2 Fixed effect regression results

Variable	Coefficient	t-stats	Probability
GDP	-0.243	-3.613	0.008
RLS	-0.257	-0.565	0.574
AHH	-0.196	-1.3632	0.180
MSE	-4,152	-11,707	0.000

Source: Results of Eviews 10

Meanwhile, as one of the control variables, GRDP has a positive and significant effect on the poverty level in DIY Province. Each 1% increase in GRDP is associated with a 0.24% decrease in the poverty rate. It indicates that economic growth does not have much effect on reducing poverty levels. It means that the results of economic growth are less evenly distributed and less enjoyed by the poor. Meanwhile, the other control variables, life expectancy and the average length of schooling do not affect the poverty level. It may be due to the high life expectancy and the average schooling size in Yogyakarta Province, so it does not affect reducing poverty. This finding provides empirical evidence that the high poverty rate in the DIY Province is not due to human resource factors but because of the low minimum wage, which causes the inability to buy daily necessities. Therefore, policies relating to the minimum wage adjustment for the regional level need to be reviewed concerning its addition every year because it will have a more significant impact on reducing poverty levels in the DIY Province.

Conclusion

This study provides empirical evidence by taking a case study of a province with a high poverty rate and a low minimum wage, namely the DIY Province. The findings of this study indicate that an increase in the minimum wage significantly reduces poverty levels in the DIY Province. Meanwhile, variables related to education and health do not appear to affect poverty levels. It reflects that the high poverty rate in the DIY Province is not due to human resource factors but because of the low minimum wage with not-so-large adjustments every year. Therefore, policies related to increasing the minimum wage will significantly impact efforts to reduce poverty in the DIY Province.

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