The 1st International Student Conference on Economics and Business Excellence (ISCEBE) 2024
e-ISSN: xxxx-xxxx/Vol. 1 No.1 (2024)

ANALYSIS OF DETERMINANTS OF POVERTY IN THE CITIES/DISTRICTS OF CENTRAL JAVA PROVINCE: PRE- AND POST-COVID-19

Akbar Baihaqi[1)], Chandra Murti Dewi Widowati Hermajiwandini[2)]
[1,2)]Economics Development Study Program, Universitas Terbuka, Indonesia
Corresponding author: baihaqi.akbar@gmail.com

Abstract

More than 10% of Central Java residents live under the poverty line. The poverty levels in several regencies even reached 15% (BPS-Statistics Indonesia, 2024). This paper aims to discover the determining factors of poverty in the cities/regencies of Central Java Province before and after the Covid-19 pandemic. Linear regression on the panel data (using SPSS as the statistical analysis tool) will be conducted to understand the factors affecting poverty levels. These factors include regional product (GRDP), average education level, regional minimum salary, percentage of residents covered by health insurance, and the Covid-19 pandemic. The results of this study will be beneficial for various stakeholders including the government to formulate policies related to poverty eradication.

Keywords: determining factors, poverty rate, Covid-19

Introduction

Poverty alleviation is one of the main purposes of economic development. Although data from BPS-Statistics Indonesia (2024) show that the national poverty level in Indonesia was at 9.03%, the percentage for Central Java province in particular is slightly higher at 10%. This means that more than 3.7 million individuals in Central Java spend IDR 507,100 or less every month.

Poverty is a multidimensional issue that requires a variety of strategies and solutions (Arsyad, 2022). To address this poverty issue, the government has planned and implemented various strategies, policies and programs. These include efforts related to upgrading the education quality, the development of the agricultural sector in rural areas and the development of other industries.

Various factors may cause poverty. The overall economic output of a region, for instance, plays an important role. Each region has different levels of economic output as they have different amounts of resources. Provinces such as Riau and East Kalimantan have an abundance of oil resources and thus have been prosperous through the years (Priyarsono, 2022). However, a high output per capita does not always mean a lower poverty level. The income distribution might be skewed and the number of people on the lower end of the distribution could be high.

Another important aspect to consider is education. High-quality human resources yield high productivity that eventually increases economic output (Arif, 2022). If every individual in a region is highly educated, their chance of being economically poor is lower. The challenge is to ensure that everyone has access to high-quality education. Some indicators of well-spread quality education are the low rate of illiteracy and that residents stay longer in school (in years).

Cities also have different levels of prices so residents of different cities need different amounts of money for their daily needs. This is why the poverty line set for each city is different and the minimum wage regulated for each city is also different. In Indonesia, provinces would announce the minimum wage set annually for each city. Bigger, more advanced cities typically have a higher minimum wage. Some cities have lower minimum wages as the cost of living is also lower.

Another issue closely related to poverty is health. Access to healthcare is a basic right. Many countries including Indonesia provide national health coverage to ensure healthcare access for everyone (Tandju, 2022). Employees working in the formal sector will automatically be covered by health insurance. Others who do not have a monthly salary are required to register with the health insurance provider. The government also pays for the health insurance premiums of people who need help. Without health insurance, a significant number of residents are at risk of falling into poverty when they are faced with serious health problems requiring expensive care. National health insurance is like a safety net for this matter. However, although it has been introduced for several years now, the coverage still has not reached 100% of residents.

Covid-19 pandemic definitely worsened poverty conditions. Melati (2023) revealed how the economy slowed down and the unemployment rate increased in 2020, the first year of the pandemic. It eventually lowered people's income and this meant lower demands for most goods and services. Businesses also had to operate within the rules of physical distancing and many of them even had to stop their whole operation. The condition continued in 2021 and the effects were still present in 2022.

Studies with different methods and variables have been conducted in many places either at a national, provincial, or city level. Interestingly, Amalia and Utomo (2023) as well as Setyadi and Indriyani (2023) found that Gross Regional Domestic Product (GRDP) does not actually affect poverty levels. It may suggest that even a high overall income does not help alleviate poverty if the distribution is far from equal. The same study by Amalia and Utomo (2023), however, found that minimum wage indeed affected the poverty level.

In terms of education, Syahrani, Kusumaningdyah and Dewa (2021) concluded that education can significantly affect the poverty level. Latuconsina, Khusaini and Lesmana (2024) also supported the finding. This is different from what Amalia and Utomo (2023) found that education is not a factor of the poverty level.

The same study by Syahrani, Kusumaningdyah and Dewa (2021) found that health condition, measured by how many residents have health insurance, has an effect on poverty level. The crucial role of health in stopping poverty across different generations was revealed by Irwan and Moeis (2019) who stated that kids with good health could reduce the risk of intergenerational poverty transmission.

Another significant factor of poverty is the Covid-19 pandemic that hit all regions of Indonesia in 2020. Sani, Fitri, Amri, Muliadi and Ikhsan (2022) found that the pandemic significantly increased poverty levels across different cities in Indonesia. Another study by Setyadi and Indriyani (2021) also concluded that the pandemic increased the risk of a higher poverty level.

Our study analyzes whether factors such as GRDP per capita, expected years of schooling, regional minimum wage, public health insurance coverage, and the Covid-19 pandemic affect the poverty levels in cities/districts across Central Java province.

Methods

This research investigates data from BPS-Statistics Indonesia between 2017 and 2023. Annual data gathered from 35 cities are then compiled into a single table. The poverty level as the dependent variable shows the percentage of residents living under the poverty lines of each city. The independent variables include GRDP per capita, expected years of schooling, regional minimum wage, public health insurance coverage, and the condition of Covid-19 pandemic.

GRDP per capita shows the gross domestic product of the city (nominal, per capita). Expected years of schooling show how many years kids in each city are expected to stay in school, suggesting the education opportunities in the area. Regional minimum wage refers to the legal minimum wage set by local governments. Public health insurance coverage is the proportion of residents covered by national and/or regional health insurance providers.

SPSS version 30, a statistics tool, was used to perform panel data linear regression on the variables from 35 cities in Central Java for the period between 2017 and 2023. Widarjono (2022) explained that panel data regression means that the data involve both time series (from the multiple years of observation) and cross-section (from the multiple cities observed). The regression analysis follows this model:

$$POV_T = \beta_0 + \beta_1 GRDP_{it} + \beta_2 EDU_{it} + \beta_3 WAGE_{it} + \beta_4 HEALTH_{it} + \beta_5 COVID_{it} + \varepsilon_{it}$$

Description:

POV	: Poverty level
GRDP	: Gross Regional Domestic Product per capita
EDU	: Expected years of schooling
WAGE	: Regional minimum wage
HEALTH	: Public health insurance coverage
COVID	: Covid-19 pandemic

Higher GRDP, educational level, minimum wage, and health insurance coverage are expected to negatively affect the poverty level while the Covid-19 pandemic is theorized to have worsened the poverty levels.

e-ISSN: xxxx-xxxx/Vol. 1 No.1 (2024)

Results and Discussions

The panel data regression reveals that three factors analyzed are in fact significant toward poverty levels in 35 cities of Central Java province. One factor, however, was found not significant. The significant factors include GRDP per capita, expected years of schooling, and minimum wage. Covid-19 is confirmed to be a factor of poverty level but the significance is lower while national health coverage was found as a non-significant factor.

Table 1.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.684[a]	.467	.456	2.62927	.467	41.964	5	239	<.001

a. Predictors: (Constant), health, covid, education, wage, grdp
b. Dependent Variable: poverty

The correlation coefficient (R) shows a strong, positive correlation between the independent variables (the factors tested) and the dependent variables (poverty levels). The significance of <0.001 means that the independent variables together significantly affect poverty levels. Among all possible factors affecting poverty levels, factors discussed in this paper contribute to approximately 45.6% of them. The remaining 54.4% are due to factors that are not covered by this research.

Table 2

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1450.509	5	290.102	41.964	<.001[b]
	Residual	1652.218	239	6.913		
	Total	3102.726	244			

a. Dependent Variable: poverty
b. Predictors: (Constant), health, covid, education, wage, grdp

The F-statistic of 41.964 and p-value of <0.001 indicate that the model is statistically significant. The following table explains how significant each independent variable is.

Table 3.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	36.879	3.167		11.645	<.001
	covid	.694	.370	.097	1.875	.062
	grdp	-2.848E-8	.000	-.213	-3.059	.002
	education	-1.546	.260	-.397	-5.942	<.001
	wage	-2.469E-6	.000	-.198	-3.373	<.001
	health	-.004	.008	-.029	-.559	.577

a. Dependent Variable: poverty

The GRDP per capita was found to be significant as a factor affecting poverty. It shows a negative correlation, meaning that a higher GRDP per capita results in a lower poverty level. Similar relationships were found in education (expected years of schooling) and wage (minimum wage). The Covid-19 pandemic, although not as significant, also shows a negative relationship. It means that the poverty levels during the pandemic years were found higher than in pre- and post-pandemic years. The national health coverage, however, was not statistically significant to be considered as a factor affecting poverty levels.

From these findings, to decrease the poverty levels, the government should focus on policies related to improvements in the economic sector in order to improve overall economic output and eventually improve GRDP. Policies targeted to improve education quality should also continue. Educated residents mean improved productivity and a lower risk for them to fall into poverty. The minimum wage should

also be maintained and adjusted to annual inflation so that more proportion of residents can get a living wage. For the health sector, although not significant according to this study, the government should continue the effort of providing access to healthcare to all residents as this should be a basic right.

What we found about GRDP per capita is different from the findings by Amalia and Utomo (2023) and Setyadi and Indriyani (2021). However, this may suggest that the income in the specific cities and years observed is better-distributed. Further studies should consider using variables such as GRDP growth to see if it would show different results. Delays may also be considered as what is shown from an economic condition in a particular year may reflect on the poverty levels in the following year, or vice versa.

We also found that expected years of schooling significantly affect poverty levels. This is in alignment with the findings by Latuconsina, Khusaini and Lesmana (2024) and Syahrani, Kusumaningdyah and Dewa (2021). Further studies should keep investigating this factor as education is crucial for economic development in general. We used expected years of schooling as a variable but other variables such as years of schooling or the proportion of residents graduating from higher education may become good indicators.

Our finding that minimum wage can significantly affect poverty levels is similar to what Amalia and Utomo (2023) found. A minimum wage that reflects on the living cost of associated cities can save people from being poor. Further studies can investigate, for instance, whether higher annual increases in minimum wage can reduce poverty levels even faster.

The health insurance coverage, however, was found to be not significant in our study. This is inconsistent with the finding by Syahrani, Kusumaningdyah and Dewa (2021). This can be a result of non-significant change across the years observed in this study. The proportion of residents covered by the health insurance did not change a lot thus the effect is not reflected well statistically. Further studies should observe the case in longer years, covering the years before the national health coverage scheme was introduced.

References

Amalia, M. B. & Utomo, Y. P. (2023). *Analisis faktor-faktor yang mempengaruhi tingkat kemiskinan di Kabupaten Sragen tahun 2005-2020*. PARETO: Jurnal Ekonomi dan Kebijakan Publik, 6(1).

Arif, M. N. R. A. (2022). *Ekonomi Pendidikan*, Edisi 2. Penerbit Universitas Terbuka.

Arsyad, L. (2022). *Ekonomi Pembangunan Lanjutan*, Edisi 2. Penerbit Universitas Terbuka.

BPS-Statistics Indonesia. (2024). *In March 2024, the poor population percentage decreased into 9.03 percent*. https://www.bps.go.id/en/pressrelease/2024/07/01/2370/in-march-2024%E2%80%93the-poor-population-percentage-decreased-into-9-03-percent-.html

Irwan, M. & Moeis, J. P. (2019). *Transmisi kemiskinan antargenerasi di Indonesia tahun 1993-2014*. Jurnal Ekonomi Pembangunan Indonesia, 19(2), 209-223.

Latuconsina, H., Khusaini & Lesmana, S. J. (2024). *Pendidikan dan penggunaan internet menurunkan kemiskinan di Banten. Jurnal Ekonomi dan Pembangunan Indonesia*, 24(2).

Melati, W. P. (2023). *Pandemi Covid-19 dan menurunnya perekonomian Indonesia*. Kementerian Keuangan Republik Indonesia. https://www.djkn.kemenkeu.go.id/artikel/baca/16064/Pandemi-Covid-19-Dan-Menurunnya-Perekonomian-Indonesia.html

Priyarsono. (2022). *Ekonomi Regional*, Edisi 3. Penerbit Universitas Terbuka.

Sani, S. R., Fitri, C. D., Amri, K., Muliadi & Ikhsan. (2022). *Dampak pandemi Covid-19 terhadap pengangguran, kemiskinan, dan ketimpangan pendapatan: bukti data panel di Indonesia*. Ekonomis: Journal of Economics and Business, 6(1), 107-115.

Setyadi, S. & Indriyani, L. (2021). *Dampak pandemi Covid-19 terhadap peningkatan risiko kemiskinan di Indonesia*. PARETO: Jurnal Ekonomi dan Kebijakan Publik, 4(1).

Syahrani, E., Kusumaningdyah, A. A. & Dewa, D. D. (2021). *Analisis faktor-faktor yang mempengaruhi tingkat kemiskinan Kabupaten/Kota di Jawa Tengah*. GEODIKA: Jurnal Kajian Ilmu dan Pendidikan Geografi, 5(2), 247-258.

Tandju, M. I. (2022). *Ekonomi Kesehatan*, Edisi 2. Penerbit Universitas Terbuka.

Widarjono, A. (2022). *Ekonometrika*, Edisi 3. Penerbit Universitas Terbuka.