

THE EFFECT OF CURRENT RATIO AND DEBT TO EQUITY RATIO ON COMPANY STOCK PRICES

(EMPIRICAL STUDY ON LQ45 COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE 2016-2020 PERIOD)

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ABSTRACT

This study aims to determine the effect of Current Ratio and Debt to Equity Ratio. This research is a quantitative study using secondary data obtained through the financial statements of LQ45 companies on the Indonesia Stock Exchange. The object of this research is LQ45 companies listed on the Indonesia Stock Exchange. The number of samples obtained in this study were 10 companies. The sampling technique used was purposive sampling. Data analysis method used by the method of Multiple Linear Regression Analysis; the data obtained were then processed using SPSS (statistical Program of Social Science) software 20. The results showed that the Current Ratio has a positive and significant effect on stock price, the Debt-to-Equity Ratio has a negative and not significant effect on stock prices.

Keyword: Current Ratio, Debt to Equity Ratio, Stock Price

INTRODUCTION

The capital market plays an important role in encouraging companies that have gone public to further improve their performance, one of which is by announcing profits and dividends to be distributed to shareholders in a company. There are several companies that have gone public, including the LQ45 company, which is the most liquid company on the Indonesia Stock Exchange. Companies with the LQ45 index category are companies that have the highest capitalization and liquidity value compared to other companies. LQ45 can be one of the choices for investors to invest in the company.

Stock trends in Indonesia can be monitored through a company's stock that is included in the LQ45 index group. The LQ45 index has a collection of 45 shares of the largest companies and has a large capitalization value.

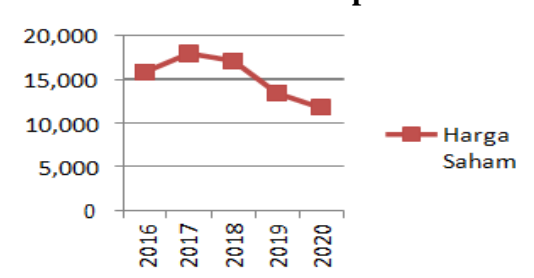
Stocks listed in the LQ45 index change every period depending on the highs and lows of the issuer's stock trading. Therefore, the LQ45 index can be used as a reference in estimating trading performance in the capital market. There are certain criteria so that an issuer can be included in the LQ45 index including, having been listed on the Indonesia Stock Exchange for at least 3 months, being ranked as average market capitalization for the last 12 months, listed as one of the 60 stocks with the highest trading transaction value in the regular market, and has good fundamental performance and bright prospects (Susilawati, 2012). Basically, the stock price is formed from the interaction between the seller and the buyer that occurs in the stock exchange and will move according to the demand and supply forces that occur on the stock on the stock exchange.

The share price is the price of a share which is determined when the market is in progress based on supply and demand for the shares in question. The prevailing share price

in the capital market is usually determined by market participants who are trading their shares. With the specified price, automatically trading shares on the Indonesia Stock Exchange will run. According to Mandagie (2014, p. 994), “Saying One of the main factors that causes stock prices is the different perception of each investor according to the information obtained.

Image 1

The average stock price movement of the research sample companies listed in LQ45 for the 2016-2020 period.



Source : www.idx.co.id (data processed)

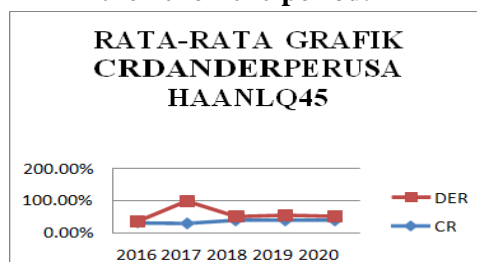
As can be seen in Graph 1.1, the average share price increased significantly in 2017 by Rp. 17,998. However, in 2020 it decreased by Rp. 11,771. In this case, Graph 1.1 indicates that the stock price of the company LQ45 has increased and decreased every year.

According to Harahap (2010, p.301), “the current ratio shows the extent to which current activities cover current liabilities. The greater the ratio of current assets to current liabilities, the higher the company's ability to cover its short-term obligations.

According to Kasmir (2014, p.157), “Stating that *Debt to equity ratio* describes the ratio used to estimate debt to equity. This ratio is sought by comparing all debt, including current debt with all equity. This ratio is sought by comparing all debt, including current debt with all equity. The Indonesia Stock Exchange (IDX) has several stock indices that have been a reference for potential investors. The stock index itself is a method for measuring the movement of a group of stocks as a whole on stocks with certain criteria, which are generally used by investors as a pointer in seeing stock market movements and as a benchmark for estimating investment performance related to stocks.

Figure 2

The moving average of CR and DER of the research sample companies listed in LQ45 for the 2016-2020 period.



Source: Data processed

As can be seen in Graph 1.2, the average CR decreased significantly in 2017 by 29.05%. However, there was an increase again in 2018 by 39.07%. The average DER experienced a significant increase in 2017 of 69.44%. However, in 2018 it decreased by 11.58%. In this case, Graph 1.2 indicates that the stock price of the company LQ45 has increased and decreased every year.

From Gap Research, Adriana Kunsiman and Lukmanul Hakim (2017) have researched the Current Ratio variable on stock prices with significant positive results, with positive results, which in turn attracts investors and makes stock prices rise. This is contrary to the research of Iriana Kusuma Dewi and Dede Solihin (2019) who have conducted research with significant negative results, which means that investors cannot see the Current Ratio as a decision to buy shares. Aditya Pratama, et al (2015) conducted research on the Debt to Equity Ratio on stock prices with positive results. Because the lower the Debt to Equity Ratio can confirm that the foreign capital used in the company's operations is getting smaller, therefore the risk borne by investors will also be smaller and can increase stock prices. This is contrary to the research of Lince Bulutoding, et al. (2018), where the DER results have no significant effect on stock prices.

Based on the description of the background above, the authors are interested in raising the title of the research regarding "The Effect of Current Ratio and Debt to Equity Ratio on Company Stock Prices (Case Study on LQ45 Companies Listed on the Indonesia Stock Exchange 2016-2020 Period)"

Based on the described background, the following problems can be formulated:

1. Does the Current Ratio (CR) affect stock prices in companies listed in LQ45 on the Indonesia Stock Exchange?
2. Does the Debt to Equity Ratio (DER) affect stock prices in companies listed in LQ45 on the Indonesia Stock Exchange.

The aims of this research are as follows:

1. To find out and test the effect of the Current Ratio on stock prices in companies listed in LQ45 on the Indonesia Stock Exchange.
2. To know and test the effect of the Debt to Equity Ratio on stock prices in companies listed in LQ45 on the Indonesia Stock Exchange.

THEORY REVIEW

1. Stock price

It is the closing price of the stock market during the observation period for each type of stock sampled and its movement is always observed by investors. If a stock experiences excess demand, then the stock price tends to rise and vice versa if a stock experiences a decrease in demand, the stock price tends to fall.

Brigham and Houston (2018, p.231), share price is "The stock price determines shareholder wealth. Maximizing shareholder wealth translates into maximizing the company's share price. The stock price at any given time will depend on the cash flows

that the “average” investor expects to receive in the future if the investor buys the stock. Based on the understanding of the experts above, it can be concluded that the stock price is the price formed according to demand and supply in the stock trading market and is usually the closing price.

2. *Current Ratio*

"Liquidity ratio is a description of a company's ability to meet its short-term obligations smoothly and on time so that filtered liquidity is called short-term liquidity" (Fahmi 2012 p.59). Meanwhile, according to Kasmir (2015 p.110) "The liquidity ratio is a ratio that describes the company's ability to meet short-term obligations." From the opinion described above, there is a conclusion that the liquidity ratio (Current Ratio) can show the company's ability to pay debts or short-term obligations when they fall due and to determine the company's ability to fulfill obligations at the time of collection.

3. *Debt to Equity Ratio*

Debt to Equity Ratio one of the financial ratios classified as solvency ratio, because it uses debt and capital to measure the size of the ratio. Debt to Equity Ratio is also used to measure the level of use of debt to the total shareholders equity already owned by the company to show the percentage of provision of funds by shareholders for lending. The higher the ratio, the lower the company's funding available by shareholders. From the perspective of the company's ability to pay its long-term obligations, the lower the ratio, the better the company's ability to pay its long-term obligations.

According to Sutrisno (2017, p.262), "it has been stated that the debt to equity ratio is the ratio of debt to equity which is a balance between the debt owned by the company and its own capital." An increase in debt can cause stock prices to decline because of the increasing bankruptcy experienced by the company itself. Therefore, the debt that exists in a company must be considered, because it will be a consideration for investors who will invest or who will invest in a debt to equity ratio because the size of the debt to equity ratio will be able to show the ability of a company to pay its obligations. company through capital.

RESEARCH METHODS

Research Design

This study uses the associative method because the aim is to find the relationship and influence between the independent variable and the dependent variable. In this study, the associative method was used to determine the effect of the Current Ratio and Debt to Equity Ratio on the Company's Stock Price (Case Study on LQ-45 Companies Listed on the Indonesia Stock Exchange)

Source of data, time and place of research

1. Research Place

To obtain data on the company's annual financial statements, LQ45 Go Public, available on the Indonesia Stock Exchange website, namely: www.idx.co.id and the

official website of the company LQ45 listing on the IDX as well as other literature materials such as books and data from research related to research problems.

2. Research time

To obtain the necessary data, the authors conducted research since the submission of the TOR in September 2021.

3. Research Source

According to Sugiyono (2019, p.15) states in research there are two appropriate data sources and can be used by researchers, namely:

- a. Primary Data, data directly obtained from sources.
- b. Secondary Data, is data obtained from written sources. This secondary data source can be in the form of primary data which has been further processed into forms such as tables, graphs, pictures, and other written data so that they are more informative.

In this study, researchers used secondary data obtained indirectly and obtained on the Indonesia Stock Exchange.

The reason for using secondary data is by considering that this data obtains validity from other parties so that it is reliable for use in research. This research also uses library research, namely the efforts made by researchers to collect information that is in accordance with the topic or problem being studied. This information can be obtained from research reports, scientific articles, scientific books and other written sources. The research data used in this study uses data for the period from 2016 to 2020.

Operational Definition

1. Current Ratio

$$CR = \frac{\text{Aktiva Lancar (Current Asset)}}{\text{Hutang Lancar (Current Liabilities)}} \times 100\%$$

2. Debt Equity Ratio

$$DER = \frac{\text{Total Hutang (Debt)}}{\text{Ekuitas (Equity)}}$$

3. Harga Saham

Closing Price

Population and Sample

1. Population

According to Hadari Nawawi (2017, p.), the population is the entire object of research consisting of humans, animals, objects, growth, events, symptoms, or test scores as data sources that have certain characteristics in a research conducted. The following are 63 LQ45 companies that have been listed on the Indonesia Stock Exchange for the 2016-2020 period.

2. Sample

Sugioyo (2019:122) said that "purposive" *sampling* is a sampling technique with certain considerations. The samples taken are samples that meet the following criteria:

- a. Companies that are included in the LQ45 index on the IDX for the 2016-2020 period.
- b. LQ45 shares that did not enter consecutively for the 2016-2020 period.
- c. LQ45 stocks whose financial data do not fully apply to CR and DER in their financial statements.
- d. Companies that use financial statement data with dollars.

Based on the above criteria, the sample used in this study was only 10 companies out of 63 LQ45 companies, which met the criteria as long as the authors conducted a survey

Method of collecting data

The data collection technique in this study uses the Documentation Method, namely by researching and studying data in the form of a financial report on an LQ45 company that has been listed on the Indonesia Stock Exchange in 2016-2020.

Data analysis method

This study uses inferential statistics with multiple linear analysis techniques consisting of 1 variable Y (bound) and 2 variables X (free). The analytical steps required include:

1. Classic assumption test

The test aims to determine whether the independent and dependent variables have a normal distribution or not. In this study, the classical assumptions of the regression model to be tested are:

a. Normality test

According to Ghozali (2013, p. 158) To find out whether the normality test is significant then it can be done with the one-sample columnogrov sminov statistical test, so a significant value of 0.05 is concluded that the data is distributed

b. Multicollinearity Test

Multicollinearity testing aims to be able to see whether in the regression model there is a correlation between independent variables. but it should be a good regression model that should not occur correlation between independent variables.

According to Ghozali (2013, p. 55) "stated that to detect the presence or absence of multicolonearity, among others:

- 1.) If the tolerance value > 0.10 and the VIF value > 10 , then there is multicollinearity between the independent variables in the regression model.
- 2.) If the tolerance value < 0.10 and the VIF value < 10 , then there is multicollinearity between the independent variables in the regression model "

c. Autocorrelation Test

According to Ghozali (2013, p. 1110) states that "the autocorrelation test aims to test whether the linear regression model has a correlation between confounding

errors in period t and confounding errors in period $t-1$ (previous). To test the presence or absence of autocorrelation, it can be detected using the Durbin-Watson test (DW Test).”

d. Heteroscedasticity Test

According to Ghozali (2013, p. 139) states that "If the variance from the residual of one observation to another observation remains, it is called homoscedasticity. The way to detect the presence or absence of heteroscedasticity is to look at the results of SPSS output through a scatterplot graph, including predictions of the dependent variable, namely ZPRED with residual SRESID.

2. Multiple Linear Regression Analysis

3. Hypothesis test

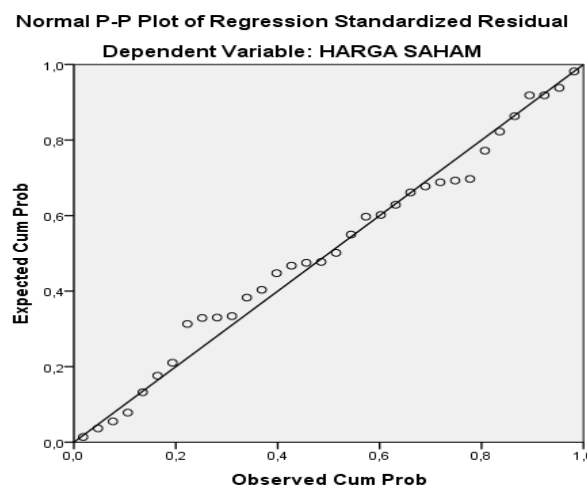
RESEARCH RESULT

The study was conducted from the 2016-2020 period on LQ45 companies listed on the Indonesia Stock Exchange. The research sample was 10 LQ45 companies, where the method used was the purposive sampling method, namely a sampling method by setting certain criteria,

1). Normality test

Based on the results of retesting using deletion, it is obtained results Kolmogorov-Smirnov of .593 and value asympt. Sig equal to 0.873 after using erasure the value is greater than $0.873 > 0.05$ so it can be concluded that the results of the normal distribution data i.e. normal Kolmogorov-Sminov test is an analytical method that can be used in this test.

Figure 3
Normality Test Results



Source: SPSS 20 . output

After doing outliers or erasure, it can be said that the regression model can be said to meet the assumption of normality, because the points in the image above have spread

around the diagonal line and the distribution has followed the direction of the diagonal line. It can be said that the data has a normal distribution.

2) Multicollinearity Test.

This test was conducted to see whether the regression model found a correlation between the independent variables. if the results are good on the regression model there should be no correlation of independent variables. that to detect the absence or presence of multicollinearity, among others (Ghozali 2013, p.55):

- a) If the tolerance value is > 0.10 and the VIF value is < 10 , then there is no multicollinearity between the independent variables in the regression model.
- b) If the tolerance value is < 0.10 and the VIF value is > 10 , then there is multicollinearity between the independent variables in the regression model.

Table 1
Multicollinearity Test Results

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
CR	,468	2,138
DER	,468	2,138

Source: SPSS 20 . output result

Based on table 1, it shows that the VIF value in the CR ratio is $2.138 < 10$ and the tolerance value is $0.468 > 0.10$, then at the DER ratio the VIF value is $2.138 < 10$ and the tolerance value is $0.468 > 0.10$, so it can be concluded that the VIF value the two variables are below the value of 10 and the tolerance value for the two variables is above the value of 0.10. This means that this study does not have a perfect linear relationship between the independent variables. So that the regression model in this study did not find multicollinearity problems and has met the requirements of a good regression model.

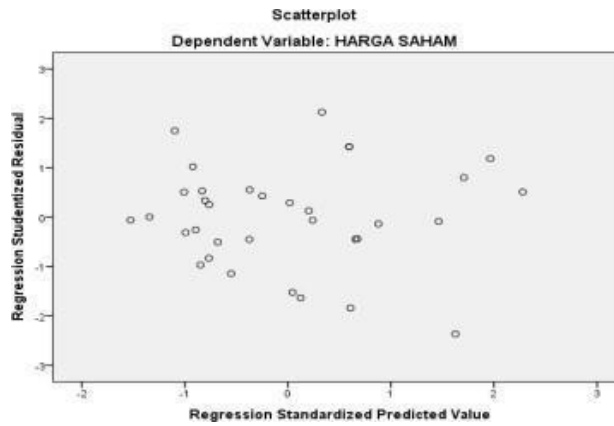
3) Heteroscedasticity Test

According to Ghozali (2013, p.139) There is a way to detect the presence or absence of heteroscedasticity, namely through a scatterpot graph, including predictions of the dependent (bound) variable, namely ZPRED with the residual SRESID. There are several basic analysis, namely.

If there is a certain pattern, such as the existing dots form a regular pattern like wavywidens then narrowssoidicates that heteroscedasticity has occurred.

If an unclear pattern occurs, like dot, dot, dot spread above and below the number 0 on the Y axis, it indicates no occurrence of heteroscedasticity.

Figure 4
Heteroscedasticity Test Results



Source: SPSS Results

The heteroscedasticity test results from Figure 4.2 the pattern of dots has spread well, because it is able to be below the number 0 on the Y axis. This can indicate that there is no heteroscedasticity, so this regression model is feasible to use for testing. In this study, the regression model can have meanings such as not only profit companies being studied, but it can also be carried out in companies that are experiencing losses. So that test heteroscedasticity is adequate for use in the study.

4) Autocorrelation Test

According to Ghozali (2013, p. 110) Some decisions about the absence or presence of autocorrelation can be seen as follows:

- a) If the DW value lies between the numbers -4 to +4 or $4 \leq DW \leq +4$, then the coefficient in the regression does not have autocorrelation.
- b) If DW is lower or below the number -4 ($DW < -4$), then the coefficient in the regression has a positive autocorrelation.
- c) If the value of DW is greater than or above the number +4 or $DW > +4$, then the coefficient in the regression has a negative autocorrelation.

Table 2
Autocorrelation Test Results (Durbin-Watson)

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,568a	,323	,279	4949,83420	2,234

a. Predictors: (Constant), DER, CR
b. Dependent Variable: STOCK PRICE

Source: Output

SPSSBased on the results of the regression analysis in table 4.7, the Durbin Watson

value of 2.234 has been obtained. So these results state that the DW value lies between the numbers -4 to +4 or $-4 < 2,234 < +4$, it can be concluded that the coefficient on the regression does not have autocorrelation.

Multiple Linear Regression Analysis

This study uses multiple linear regression, because to be able to prove the influence of CR and DER on stock prices in LQ45 companies listed on the IDX for the 2016-2020 period.

Figure 5
Research Constellation

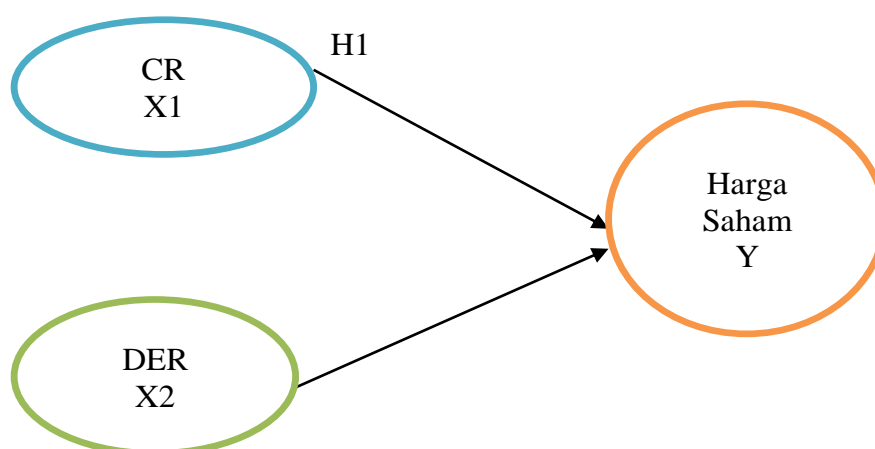


Image 1

The following are the results of tests that have been carried out with SPSS Statistics.

Table 3
Multiple Linear Regression Test Results

Model	Unstandardized Coefficients		Stand arized Coefficients	t	Sig .
	B	Std. Error	Beta		
(Constant)	4547,152	5640,848		,806	,426
CR	3257,732	1582,321	,445	2.059	0.048
DER	-3173.613	4416,664	-,155	-,719	,478

a. Dependent Variable: STOCK PRICE

Source: results by SPSS output data

Based on table 3 the calculation of the regression equation is as follows:

$$Y = 4547,152 + 3257,732 - 3173,613 +$$

The coefficient of the multiple linear regression equation above can be interpreted as follows:

- a) = 4547,152 can have a meaning such as X (CR and DER) = 0, then the value of Y (Stock Price) will show a result of 4547,152 or it can be interpreted as the absence of CR and DER then the points obtained for the share price are 4547 ,152
- b) $\beta_1 = 3257,732$ can show The regression coefficient of the CR variable has a point in the direction of positive regression, where for every 1 (one) point increase in the value of X1 CR, the Y value of the stock price increases by 3257,732.
- a. $\beta_2 = -3173,613$ this shows The regression coefficient of the DER variable has a point in the negative direction, where for every 1 (one) point increase in the X2 DER value, the Y value of the stock price will increase by - 3173.613.

Coefficient of Determination (R²)

According to Ghozali (2013, p.97) "the coefficient of determination has a purpose to measure how far the model's performance is in explaining the variant of the dependent variable".

This coefficient is also used to determine the effect of the variables CR (X1) and DER (X2) on stock prices. The following are the results of the Coefficient of Determination test as follows:

Table 4.
Coefficient of Determination Results

Model	R	R Square
1	,568a	,323

Source: Research Results

Based on table 4, the results of the coefficient of determination test show that the value of R square R² is 0.323. This result can indicate that the stock price variable is influenced by the CR (X1) and DER (X2) variables on the stock price of 0.323 or 32% so that 68% (100% - 32%) is determined by other variables that can affect stock prices.

b. Hypothesis test

Table 5
T-Statistic Test Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
(Constant)	4547,152	5640,848		,806	,426
CR	3257,732	1582,321	,445	2.059	048
DER	-3173.613	4416,664	-,155	-,719	,478

a. Dependent Variable: STOCK PRICE

Based on the table. 5 it can be concluded that

- a) Effect of Current Ratio (X1) on Stock Prices Based on the results of the hypothesis testing of the Current Ratio (CR) that has been carried out, it can be seen from the

significant value of $0.048 < 0.05$ and it can be seen that the results of the CR variable show that $t_{count} < t_{table}$ with a result of $2,059 > 2,039$. The research that has been done above has results that can be said to have a positive and significant effect.

- b) Influence *Debt to Equity*(X2) to the Share Price. From the results of the t test that has been carried out above, it can be seen that $t_{count} < t_{table} (-719 > 2.039)$ from the calculation result of t_{count} variable *Debt to Equity*(X2) has a result of -719 which means it is smaller than the value of t_{table} which is $2,039$. Furthermore, there is a significant value of 0.478 , which means that *Debt to Equity* has no effect on stock prices applied outside the sample, which has a value of 0.478 , which is above 0.05 . So from the above results it can be concluded that H_0 is accepted and H_a is rejected, meaning that the *Debt to Equity* variable has no effect on stock prices

CLOSING

Conclusion

Based on the research that has been carried out, the aim is to be able to determine the effect of the Current ratio and Debt to equity ratio on stock prices in LQ45 companies listed on the Indonesia Stock Exchange for the period 2016 – 2020, hereby it can be concluded as:

1. *Current ratio* positive and significant effect on stock prices in LQ45 companies.
2. *Debt to equity ratio* has a negative and insignificant effect on stock prices in LQ45 companies.

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LITERATURE REVIEW

The proximity of geography and institutional approach is alternative view that tries to explain poverty. These two views are also often debated. Both of these views are to the factors that are thought to be the cause of or at least related to poverty. The geography approach on the one hand points to aspects of geography as factors related to poverty. Natural conditions, regional location, climate, topography and other geographical conditions that are considered unfavorable have an influence on the occurrence of poverty in a country or region (Demurger et al., 2002;; Liu & Xu, 2016; and Rahayu et al. , 2019). The effect of location on income levels and economic growth occurs through transportation cost channels, while climate affects low incomes through the potential for high disease burdens and low productivity (Gallup et al., 1999). Countries with tropical climates tend to have agricultural production technologies and lower levels of health compared to temperate countries (Sachs et al., 2001).

The institutional approach on the different sides argues that institutionality is an important factor that determines the progress of a country. Prosperity and poverty are related to institutional factors, such as governance, regulation, or social institutions in society. A number of studies concluded that institutions contribute positively to a country's economy (Acemoglu et al., 2001; Glaeser et al., 2004; and Helliwell et al., 2018). According to this view, proper geographical conditions, good technology, or better quality of the population can lead to economic growth. However, all of that cannot trigger well-being in the absence of a good institutional system. Institutionalization is defined as a set of rules or institutions along with economic and social institutions that overshadow the economic and political activities of the perpetrators. Institutionalization is understood as the rules of the game that are associated with several dimensions such as the political dimension, the capacity of the state, the enforcement of property rights, regulations or policies that regulate all resources (Ravallion, 2016). A good institution is an inclusive institution, namely an institution that is able to maximize the potential and talents of every citizen (Acemoglu, et al., 2017).

The debate between geographical and institutional approaches has also been widely used in analyzing poverty in various countries, including Indonesia. Several studies have found that geographical factors such as regional location, topography, rural area conditions or the distance between villages and hospitals are factors that affect poverty in the West Java Province (Djamaluddin, 2014); in Central Java Province (Jajang, et al., 2013); Bengkulu Province (Harmes, 2017) and in Riau Rahayu Province (2019). Meanwhile, other studies have found that institutional factors are an important element in explaining the occurrence of poverty. The studies use variables of economic and social infrastructure availability for institutional factors. The findings in these studies show that the use of electricity facilities,

paved roads, clean water and sanitation has an influence on the increase in population income (Balisacan et al., 2002; Nashwari et al., 2016; Sari & Kawashima, 2016; Hakim et al., 2021). This study intends to test geographical and institutional factors that are suspected to have an influence on poverty in the Bogor, Depok and Bekasi (Bodebek) areas of West Java Province. The Bodebek region consists of five regencies/cities, namely Depok Regency, Bogor City, Depok City, Bekasi Regency and Bekasi City. The five areas are located close to and even attached to DKI Jakarta Province. The rapid development of the Bodebek area is inseparable from its role as a buffer area for DKI Jakarta Province's activities. The high economic activity can be seen from the pace of economic growth and the contribution of GRDP to the GRDP of West Java Province. The total GRDP of the Bodebek region covers 47.34 percent of the total GRDP of West Java Province in 2018. However, in the social aspect, poverty is also high, which is as much as 22 percent of the total poor population of West Java Province. Table 1 below shows the percentage of GRDP and the percentage of the number of poor people against the GRDP and the number of poor people of West Java Province.

Table 1
Percentage of GRDP and Number of Poor People in Bodebek Region
to the GRDP and the Number of Poor People in West Java Province

Districts/Cities	Percentage of GRDP to WEST Java's GRDP	Percentage of the number of poor people
Bogor	11.07	0.11
Bekasi	15.42	0.04
Bogor City	2.13	0.02
Bekasi City	4.59	0.03
Depok City	3.25	0.01
Total	47.34	0.22

Source: Processed from the Central Statistics Agency (2018)

The infrastructure and facilities available to support the economic and social activities in the Bodebek region are seen as more adequate than the rest of the region. Data from the Central Statistics Agency of West Java Province noted that as many as 29 percent of the number of hospital and maternity hospital health services in West Java Province are in the five Bodebek regions. The percentage of the number of elementary and junior high schools in the Bodebek area was recorded at 18 percent and 58 percent of the total elementary and junior high schools of all districts/cities of West Java Province, respectively. In addition, the average percentage of the population who have healthy sanitation facilities and clean water is above the average of West Java Province (<https://jabar.bps.go.id/>). The high level of economic activity, the availability of sufficient infrastructure do not make the Bodebek region free from the problem of poverty. The number of poor people in the Bodebek region covers approximately 20 percent of the total poor population in West Java Province. Based

on the description that has been put forward, it is interesting to study how geographical, institutional, economic conditions and macroeconomic variables can affect poverty that occurs in the Bedebek region.

RESEARCH METHODS

This research is descriptive quantitative in describing the phenomenon of poverty as well as factors that are determinants or at least related to poverty. The data used in this study came from the raw data of the Village Potential Data Collection (Podes) of West Java Province released by the Central Statistics Agency. Podes data is the only regional data source whose content varies and provides an overview of the development situation of the region. The data period used is Podes data in 2011, 2014 and 2018. The scope of the study was at the village / kelurahan level with a household-level analysis unit. The observations cover 5 buffer areas of the State Capital in West Java Province, including Bekasi Regency, Bekasi City, Bogor Regency, Bogor City and Depok City. The total samples used from the six regions were 802 villages and sub-districts. This study used the poverty variable as the dependent variable. In research it is defined as the inability of a person to meet the needs for a prosperous life. The poverty variable (Y) is measured by the number of residents receiving the JAMKESMAS / JAMKESDA / BPJS health card for Contribution Assistance Recipients (PBI).

While the dependent variables are divided into 4 (four) groups, which are divided into groups of geographical variables, groups of infrastructure variables, groups of variables that describe the economic characteristics of the population, and groups of macroeconomic variables. Such groups of independent variables can be described as follows:

1. Geographic variables, including the topography of the area (X1); the distance of the village of the district/city capital (X2); the distance of the village to the nearest hospital (X3); and the distance of the village to the nearest market (X4).
2. Variables of availability of educational infrastructure are the number of elementary schools (X5) and the number of junior high schools (X6); health infrastructure including health facilities (X7), the number of Integrated Health Service Posts or Posyandu (X8), the number of health workers (X9); road infrastructure (X10), street lighting facilities (X11); market facilities (X12); bank facilities (X13); clean water facilities (X14); sanitary facilities (X15); electricity facilities (X16); and Kredit Usaha Rakyat or KUR facilities (X19).
3. Variables of community economic conditions include the main source of income of the population (X17) and the number of small and medium enterprises or SMEs (X18)
4. Macroeconomic variables include the rate of Gross Regional Domestic Product or GRDP (X20) and the Human Development Index or HDI (X21).

Based on the variables used, an econometric-based research model is compiled. The specification of the research model refers to several previous studies that consider geographical factors (region), characteristics of society or infrastructure, economic

characteristics as well as macroeconomic variables as determinants or at least related to poverty. Some of these studies include Balisacan et al. (2002), Nandori (2012), Barros and Gupta (2017), and Fosu (2017). Furthermore, the model used to analyze the factors affecting poverty in 5 (six) Bodebek regions in West Java Province is as follows:

$$Y_{it} = \alpha + \beta_1 X1_{it} + \beta_2 X2_{it} + \beta_3 X3_{it} + \beta_4 X4_{it} + \beta_5 X5_{it} + \beta_6 X6_{it} + \beta_7 X7_{it} + \beta_8 X8_{it} \\ + \beta_9 X9_{it} + \beta_{10} X10_{it} + \beta_{11} X11_{it} + \beta_{12} X12_{it} + \beta_{13} X13_{it} + \beta_{14} X14_{it} \\ + \beta_{15} X15_{it} + \beta_{16} X16_{it} + \beta_{17} X17_{it} + \beta_{18} X18_{it} + \beta_{19} X19_{it} \\ + \beta_{20} X20_{it} + \beta_{21} X21_{it} + \varepsilon_{it}$$

The data analysis technique used to analyze the influence of independent variables on dependent variables is a panel data regression technique or model. The data of the study was conducted using stata 13 software. There are 3 (three) models that can be used to estimate the parameters in the regression of panel data, namely the common effect model, the fixed effect model and the random effect model. The determination of which model is best to use is determined through testing using the Chow, Breusch Pagan and Hausman tests.

RESULTS AND DISCUSSION

This research model assumes that there are differences in characteristics between villages / between regions, but do not change between times. This assumption arises because in reality, each village in the research observation has different characteristics, such as differences in topography, regional location, government conditions, leadership style, economic conditions, society, and others. Based on these assumptions, the model suggested in each district/city is not the same. The results of model selection testing using the Chow test, The Breusch Pagan Test and the Hausman test showed that the fixed effect model is the best model for Bogor Regency and Karawang Regency. Meanwhile, the appropriate model for Bekasi Regency and Bogor City is the common effect model. The random effect model is the best model for estimating poverty parameters in Bekasi City and Depok City. In research models that use common effect and fixed effect methods, it is necessary to test multicollinearity and test heteroskedasticity. The results of the multicollinearity test showed that there was a correlation between the variable number of elementary schools and the number of junior high schools in three (three) three districts/cities. The coexistence value between these variables is found in Bogor Regency of 0.5311, in Bekasi Regency of 0.6104 and in Bogor City of 0.3856. Based on the value of the collinearity it was decided that this correlation is still allowed to be contained in the model because it is not a perfect collinearity. The existence of heteroskedasticity encountered through the Wald test was overcome using the White/heteroskedasticity-robust standard error method. Through this method, an estimation coefficient that is immune (robust) to violations of the assumption of homoskedasticity is obtained. The resulting estimator becomes unbiased and consistent so that it is valid for the t test and the F test.

Table 2.
Panel Data Regression Results

Variable	Regency Bogor	Bogor City	Bekasi Regency	Bekasi City	Depok City
	POV	POV	POV	POV	POV
X1	98,086 (213,909)	2.555,920** * (559,748)	-217,613 (556,939)	- -	- -
X2	-3,039 (4,151)	6,108 (60,950)	1,162 (5,196)	-44,789 (42,490)	-68,629 (52,044)
X3	-4,218 (6,653)	43,110 (48,815)	-8,432 (11,484)	-126,220 (121,952)	82,570 (88,781)
X4	-11,545 (12,192)	-110,817 (102,918)	-17 529** 7,282	50,766 (190,503)	51,893 (92,752)
X5	27,047 (37,156)	141,332** (65,052)	164,148*** (42,118)	44,360 (44,094)	66,816 (66,416)
X6	-28,110 (43,746)	-313,850** (123,328)	-5,216 (62,645)	113,813 (97,210)	160,037 (109,093)
X7	4,497 (15,038)	114,883** (48,144)	3,830 (12,867)	17,962 (13,991)	-3,393 (17,359)
X8	-12,891 (18,011)	11,803 (42,712)	-7,845 (16,878)	14,962 (18,037)	12,335 (38,840)
X9	-11,791 (7,963)	8,064 (6,051)	-7,251*** (2,443)	4,444 (6,796)	16,536** (8,250)
X10	-336,057 (308,956)	- -	85,175 (413,252)	- -	- -
X11	124,694 (148,625)	-694,830 (1.431032)	271,964 (184,405)	3.365,775 ** (1.650746)	659,975 (1.197081)
X12	-265,632 (179,822)	749,192 (535,820)	-76,190 (222,451)	827,849 (675,347)	822,831 (582,067)
X13	353,196* (198,866)	-172,163 (404,727)	-283,020 (297,825)	664,264 (615,165)	33,110 (475,684)
X14	-145,094 (118,149)	-501,106 (475,076)	-37,071 (234,850)	2,047,072 ** (871,483)	-324,569 (649,638)
X15	154,022 (135,316)	255,192 (838,878)	-74,675 (198,221)	-621,826 (1.325367)	-768,016 (917,778)
X16	7,966* (4,755)	16,318 (17,917)	-10,080 (9,895)	91,248* (55,175)	-8,344 (35,658)
X17	61,852	1.803,118** *	325,882	2.068864	-2.079,731 **

	(110,946)	(483,215)	(259,563)	(2.257085)	(979,255)
X18	1,039 (1,274)	23,757** (9,904)	7,867** (3,742)	10,438*** (3,159)	-3,293 (10,414)
X19	-144,406 (111,615)	333,451 (392,712)	258,106 (204,752)	807,329 (557,514)	56,152 (444,651)
X20	22.675,775* ** (5.802400)	- 8.504,081** * (2.573045)	- 1.225,410** * (408,083)	-1.880132 (1.829488)	-2.996396 (2.203753)
X21	1.322,208** * (392,231)	-106,994 (160,209)	- 238,586*** (75,608)	-786,664 (930,981)	1.530,269** * (377,976)
Observation	1.212	200	532	162	181
R-squared	0,157	0,302	0,125	0,270	0,387
Number of villages	426	68	187	56	63

Source: Processed data (2020)

The results of data processing in table 3 show that there is Bogor Regency, there are two variables that significantly affect poverty, namely the rate of GRDP and HDI. Both variables have a positively marked influence, meaning that the higher the rate of GRDP and HDI, the higher the poverty. Meanwhile, in Bogor City, there are several independent variables that have a significant influence on poverty, including regional topographical dummy variables, the number of elementary schools/mi, the number of junior high schools/MTs and the rate of GRDP with varying coefficient signs. Different results also occurred in Bekasi Regency. Variables such as the distance of the village office to the nearest market, the number of elementary schools (SD/MI), the number of health workers, the number of SMEs, the rate of GRDP and HDI are variables that significantly affect poverty in Bekasi Regency. Meanwhile, the dummy variables of drinking water sources, street lighting infrastructure and the number of SMEs are variables that have a significant effect on poverty in Bekasi City. Furthermore, poverty in Depok City is significantly influenced by the dummy variables of the main source of income of the population, the number of health workers and hdi.

As stated in the methodology, the independent variables used in this study were grouped into 4 groups, namely geographical variables, social and economic infrastructure variables, economic condition variables and variables Macroeconomic. Based on the results of data processing, it can be seen that not all variables have a significant effect on poverty in each district/city. In addition, patterns of influence of significant variables on poverty

also vary between districts/cities. The following table 4 presents an overview of the influence of the grouping of independent variables along with the signs of coefficients or patterns of their influence on poverty in the five BODEBEK regions.

Table 3.

Influence of Significant Variables of Geography, Infrastructure, Economic and Macroeconomic Characteristics on Poverty in the Bodebek Region, West Java Province

No.	Variables	Districts/cities	Coefficient Signs
A. Geography Variables			
1	Topography of the territory	Bogor City	(+) Positive
2	Distance of the village to the nearest market	Bekasi Regency	(-) Negative
B. Infrastructure Variables			
1	Number of SDs	Bekasi Regency, Bogor City	(+) Positive (+) Positive
2	Number of Junior High Schools	Bogor City	(-) Negative
3	Number of health facilities	Bogor City Depok City	(+) Positive (+) Positive
4	Number of health workers	Bekasi Regency	(-) Negative
5	Sources of drinking water	Bekasi City	(+) Positive
6	Lighting infrastructure	Bekasi City	(+) Positive
C. Variables of Economic Characteristics			
1	The main sources of income	Bogor City Depok City	(+) Positive (-) Negative
2	Number of SMEs	Bekasi Regency Bogor City Bekasi City	(+) Positive (+) Positive (+) Positive
D. Macroeconomic Variables			
1	GRDP rate	Bogor Regency Bekasi Regency Bogor City	(+) Negative (-) Negative (+) Positive
2	IPM	Bogor Regency Bekasi Regency Depok City	(+) Positive (-) Negative (+) Positive

Source: processed data (2020)

Influence of Variabel-variable Gographyon Kemiskinan on Wilayah Bodebek

Geographical factors, namely the topography of the area, affect poverty in Bogor City with a coefficient marked positively. Geographically, Bogor City is located in the middle of

Bogor Regency. The height of Bogor City is between 190 m and a maximum of 330 m from sea level, with most of the area in the form of plains or expanses. Impoverishments will tend to be higher in plain areas than in mountainous or valley areas. The plain area, which is the main residential place for the residents of Bogor City, is full of problems of urban marginalized residents. This plain area has a high potential for the emergence of poverty problems. In Bekasi Regency, the variable number of poor people has the same direction as the variable distance of the village to the nearest market. This means that the shorter the distance between the region and the nearest market, the higher it has a higher poverty rate, and vice versa. This shows that the existence of the market has not provided a multiplier to the improvement of the welfare of the local population.

Effect of Variabel-variable Iof the structure on theimpoverishment of the Wilayah Bodebek

Variables reflecting the availability of educational infrastructure have a significant effect on poverty in Bekasi Regency and Bogor City. In Bekasi Regency and Bogor City, the number of primary schools has a significant and positive influence on poverty. The construction of educational facilities such as elementary schools is a long-term investment. The results of this study are in line with the findings of Dardiri et al. (2019) which found that the level of education also did not significantly affect poverty in Bogor City. Meanwhile, the increase in the number of junior high schools has an influence on reducing poverty in Bogor City. The development of further education infrastructure (SMP or SMA) has a shorter period of time to generate an increase in income.

The group of variables describing the availability of health infrastructure affects poverty in Bogor City, Bekasi Regency and Depok City. In Bogor City, the signification of the influence of theariabel of health facilities on poverty is positive. The increase in poverty is moving in line with the increase in the number of health facilities. Implicitly, this result implies that the number of health facilities available in Bogor City has not been able to meet health services equally to the entire community. One of the problems is that not all health service facilities have thesame as service quality standards. Thecompleteness of facilities and infrastructure for puskesmas, hospitals, maternity cottages, health huts is also an important factor in providing excellent health services for the community (Pamungkas & Kurniasari, 2020).

Health infrastructure variables in the form of the number of health workers such as general practitioners/specialists, dentists and midwives have a significant effect in reducing impoverishmentn in Bekasi Regency. These results show the significant role of health workers in accelerating health development. However, the addition of health workers has the same direction as the increase in poverty in Depok City. The increase in the number of health workers is not always followed by the even distribution of the population to get health services. This is in line with the findings of Aini et al. (2016) that health indicators in the form of variables of health facilities and health workers do not have a significant effect on changes in human development in HDI indicators in Depok City.

The availability of environmental health facilities reflected in the variables of drinking water sources has a positive influence on fish signi fand is positive on poverty in Bekasi City. As in most urban areas, clean water facilities are obtained from plumbing or piped water sources from drinking water treatment companies, bottled water and groundwater taken using pumps and filtered. Based on data from bps west java province in 2020 about the percentage of households according to household drinking water sources in 2018, it was recorded that as many as 75.17 percent of households used bottled water as a source of drinking water; as many as 22.33 percent of households used pumps; as many as 1.32 percent of households used plumbing; and 1.18 percent of households used protected wells. The procurement of water source facilities requires costs that ultimately increase the burden on household expenses. On the other hand, the availability of main road lighting infrastructure is also not related to the increase in the number of poor people in Bekasi City.

Influence of Variabel-V ariabel Karakteristic Ekonomi on Kemiskinan on Wilayah Bodebek

Variables of economic characteristics of the main source of income of the population and the number of SMEs significantly affect poverty in Bogor City, Depok City, Bekasi City and Bekasi Regency. In Bogor City, the main source of income for the population in the agricultural sector tends to increase poverty compared to non-agricultural sources of income. The agricultural sector with a low exchange rate and increasingly eroded by the industrial and service sectors, is increasingly unable to provide adequate welfare to its population. This is in contrast to Depok City, where the main non-agricultural source of income tends to cause more poor people. As an urban area buffering the national capital, Depok City has grown into an increasingly congested city. Various urban socioeconomic problems faced cause Depok City to be vulnerable to the poverty of urban residents with the main source of income not agriculture.

The variable number of SMEs statistically significantly affects poverty in Bogor City, Bekasi Regency and Bekasi City. In these three regions, the increase in the number of SMEs is in the direction of poverty. This result confirms that the increase in the number of SMEs is not always followed by a decrease in poverty. The existence of SMEs is still not optimal in helping to create jobs, increase income and welfare of villagers/kelurahan residents. The findings of this study support the findings of Primatami & Hidayati (2019) which states that the ability of SMEs to absorb energy is not always determined by the number of SMEs or the number of residents.

Effect of Variabel-variable Macro on Kemiskinan pada Wilayah Bodebek

The macro variable of the GRDP rate is a significant variable affecting poverty in Bogor Regency and Bogor City with a positively marked coefficient. Implicitly, this result is interpreted that the increase in GRDP in Bogor Regency and Bogor City has not been able to reduce the number of poor people. These results are different from most studies that an increase in GRDP or economic growth is able to improve welfare and reduce poverty (Fosu,

2017; Barros & Gupta, 2017; Ginting, 2015, Puspita, 2015). However, this finding is in line with the results of the Astuti study (2018) that economic activities reflected in GRDP are not significant to reduce poverty in the case of Parung Village, Bogor Regency. In addition, the findings of Nurmainah (2013) and Zuhdiyati & Kaluge (2018) that economic growth cannot be enjoyed equally by the entire community.

The HDI variable has a significant and negative effect on poverty in Bogor Regency and Depok City, and negatively affects poverty in Bekasi Regency. The increase in HDI reflecting the improvement of development outcomes has a direction that is not in line with poverty. This result does not correspond to the hypothesized theory. Meanwhile, in Bekasi Regency, improving the quality of human development in the fields of education, health and income has a significant effect in reducing the number of poor people.

These findings suggest that economic growth does not necessarily have an impact on reducing poverty. High economic growth does not always describe equitable prosperity. Equitable income distribution and low inequality are more visible in the size of per capita income or GRDP per capita. The study conducted by Sumarto et al. (2017) revealed the fact that poverty is lower in districts with high levels of GRDP per capita and higher average education levels. Quality economic growth will increase wider access to the public to education services, health and better economic opportunities, resulting in an increase in HDI. The findings of this analysis are in line with Nugroho (2015) that basic infrastructure affects poverty indirectly but through improvements to the Human Development Index (HDI).

CONCLUSION

1. Factor geography has a significant influence on poverty in Bogor City and Bekasi Regency. In general, this conclusion is interpreted that poverty in the Bodebek area is not directly related to geographical factors in terms of topographical aspects and village distance.
2. Institutional factors reflected in the availability of infrastructure also have a varied influence on poverty in the Bodebek region. The impoverishment of the Bodebek region deals with educational and health issues including environmental health. As a buffer for the State Capital, the Bodebek region is inseparable from the socioeconomic impacts in the State Capital. The positive impact can be seen in basic infrastructure such as paved/paved concrete paved road facilities, electricity supply and street lighting which is enjoyed almost throughout the Bodebek area. Meanwhile, the negative impact is that it can increase urban poverty in the Bodebek region, due to the overflow of the population and the socioeconomic problems it brings
3. Economic characteristics affect poverty in the Bodebek area in Bogor City and Depok City. Poverty in Bogor City tends to be rural poverty with agriculture as the main livelihood of the population. Meanwhile, poverty in Depok City tends to be urban poverty with the main livelihood of the population not in the agricultural sector. Related to the findings on the SME variables, it was concluded that sektor haan entrepreneurship in the Bodebek region has not been able to support jadi sector support for increasing income and welfare. Capital, marketing, and other management problems are still obstacles

faced by SMEs to be more advanced and play a role in improving the economic welfare of actors and the community.

4. The increase in the rate of GRDP and HDI towards poverty has an important role in efforts to reduce poverty in the Bekasi Regency area. However, in Bogor Regency and Bogor City, the increase in the rate of GRDP and HDI has not been able to transform into an increase in income and welfare. The suspicion of growth that is not accompanied by equality is one of the causes. Economic growth that is not redistributive is alleged to have not had a significant influence on reducing poverty in parts of Bodebek.

SUGGESTION

1. Related to geographical factors, poverty in the Bodebek region is thought to be more related to the location of the area that is directly adjacent and becomes a buffer for economic and social activities in the National Capital. Therefore, an urban planning is needed that considers the economic, social and environmental carrying capacity of the five Bodebek regions.
2. On the necessary educational infrastructure not only the number, but higher quality and level. Job opportunities in the industrial and service sectors require the demands of higher educational qualifications, such as high schools and universities. Expanding vocational schools that can directly connect with the world of work can be one solution that can be considered. In the health aspect, local governments can support health service programs that can be accessed cheaply through the addition of regional health insurance programs. In terms of clean water needs, local governments can provide assistance in the procurement of clean water at low cost. This program is expected to reduce the use of bottled drinking water which is expensive and has a negative impact on the environment.
3. The agricultural sector is not the main sector supporting Bodebek's economy, but government support for the sustainability of this sector is still needed. The urban farming program is one of the alternatives to improve the agricultural sector in urban areas. Regarding the SME aspect, it is necessary to provide assistance from production, financing and marketing so that its existence is significant in helping to increase income and reduce poverty.
4. Development goals and strategies are more directed towards growth accompanied by equity. Inaccuracy in development planning can actually lead to absolute and relative poverty. On this basis, studies of poverty should use the variable per capita income compared to economic growth. Per capita income or GRDP data better describes purchasing power and the level of equitable distribution of development outcomes compared to economic growth.

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