Analysis of the Effects of Economic Growth and Population Toward Beef Cattle Farmers’ Welfare in Subang Regency, Indonesia

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ABSTRACT

Businesses in the livestock sector which are part of the agricultural business sector are very vulnerable to economic and social impacts. Price fluctuations and currency exchange rates will be felt by breeders, as well as people's purchasing power which will greatly affect the livestock business sector. Population growth causes a region's Gross Regional Domestic Product (GRDP) to change. The purpose of this study was to analyze the effect of economic growth and population on the welfare of breeders. This research method uses a quantitative approach that emphasizes the analysis of numerical data processed by statistical methods and literature study. The literature study is related to macroeconomic indicators, namely the population and welfare of breeders. Secondary data uses data from the Subang Regency Livestock and Animal Health Service, the West Java Province Food Security and Livestock Service Office, the Central Bureau of Statistics (BPS) Subang Regency, and West Java BPS as well as data from related journals and articles. Data analysis using multiple regression analysis techniques. The results showed that there was a significant influence between economic growth and population on the welfare of breeders in Subang Regency. This research shows that the welfare of smallholder breeders is influenced by economic growth and population. The higher the economic growth and population of an area, the higher the level of welfare of breeders in that area.

INTRODUCTION

The Central Statistics Agency for Subang Regency reported that the number of beef cattle breeders or ranchers' families in West Java Province in 2021 reached 2,146 breeders or ranchers' families (Badan Pusat Statistik Kabupaten Subang, 2021). The data from the Central Bureau of Statistics in Indonesia for measuring the welfare of farmers use the criteria from the Central Bureau of Statistics, 2021 with a basic needs approach based on the minimum individual expenditure showed that the limit for consuming food is equivalent to 2100 calories per day and non-food consumption. Consequently, the welfare of breeders is the ability of breeders or farmers' families to meet their food and non-food consumption through their income. (Badan Pusat Statistik Kabupaten Subang, 2021). The population in the economic development of a region is a fundamental problem, due to the lack of population growth which can result in not achieving economic development goals, namely people's welfare and reducing the welfare rate of breeders (Shavira et al., 2021). Research (Pangiuk, 2018) there is a direct effect between population growth on the level of social welfare. This shows that rapid population growth in developing countries causes the level of social welfare not to experience significant improvement and in the long term will experience a decline in welfare and an increase in the number of poor people.

In 2021, the economic growth of Subang Regency is projected to reach the range of 4.7% to 5.2%, as projected by the Ministry of Finance with the accelerated treatment of the Use of the Regional Revenue and Expenditure Budget for Fiscal Year 2021 (Kementerian Keuangan Republik Indonesia, 2021). Firstly, it is done by carrying out the bidding process for activities that have been budgeted the in Local Government Budget in the initial budget of the year, to avoid budget flexibility at the end of the year. Secondly, in accelerating the ease of investment in the regions, by increasing investment to regions originating from within the country audience with the potential in the regions so that the source of financing in the implementation of regional development does not only rely on the Local Government Budget and can create new jobs.

Businesses in the livestock sector which are part of the agricultural business sector are very vulnerable to economic and social impacts. Price fluctuations and currency exchange rates will be felt by breeders, especially beef cattle breeders, as well as people's purchasing power which will greatly affect the beef cattle farming business sector. The resulting population growth of the Gross Regional Domestic Product in an area will change (Ribeiro & Lemos Marinho, 2017). The land designated for livestock in West Java Province has an area of approximately 10,000 hectares with general types of all being grazing land, and pastureland reforges for animal feed. There are 2,146 farming families in total (Badan Pusat Statistik Kabupaten Subang, 2021). There have been many studies in several regions that prove that economic growth has a strong effect on poverty. Where an increase in equitable economic growth will create social welfare and reduce welfare (Lee & Sissoms, 2016). This research refers to research (Akhir et al., 2019) in his research shows that there is a significant influence between economic growth and population...
on the level of social welfare, but there is no research that specifically looks at how the effect of economic growth and population on the livestock sector, especially smallholder farmers. Based on this background, this study aims to analyze the effect of economic growth and population on the welfare of breeders in Subang Regency.

LITERATURE REVIEW

Economic Growth

The Economic growth in 2014-2018 had a positive and significant impact on the welfare of the people in East Java Province (Shavira et al., 2021). The minimum wage has had a positive and significant impact on the welfare of the people of East Java during 2014-2018. The 2014-2018 unemployment rate had a negative and significant impact on the welfare of the people of East Java. Economic growth has a positive but not significant effect on income inequality. The impact of income inequality on social welfare is positive and not significant. Economic growth indirectly affects people's welfare through income inequality. This shows that economic growth and income inequality only contribute 35 percent of people's welfare, while 65 percent is influenced by other factors. The government in formulating development policies thus needs to pay attention to various factors other than economic growth and income inequality. It is hoped that the welfare of the people of Sidoarjo Regency can be created (Sholihah & Kustanto, 2017).

Inflation and investment are one of the factors that can affect the economic growth of a region. This study aims to determine the effect of inflation and investment on economic growth and social welfare in Java from 2006-2018. The analytical method used in this study is Multiple Linear Regression Analysis and Path Analysis. The results of this study indicate that the inflation variable has a negative and insignificant effect on economic growth, the investment variable has a positive and significant effect on economic growth, inflation and investment variables have a negative and insignificant effect on people's welfare and the economic growth variable has a positive and significant effect on people's welfare in Java Island in 2006-2016 (Sari et al., 2019).

Economic growth has no significant effect on poverty (Pangiuk, 2018). These factors do not have the most dominant effect on the volume of economic growth on poverty because they have the greatest value compared to the value of growth. The results of the analysis stated that development and economic growth in Jambi province had the highest percentage of economic growth in 2009-2013 in 2011 was 8.54%, while the lowest percentage in 2009 was 5.57%. Based on the development of poverty in Jambi province, the highest percentage of the poverty rate in 2009-2013 was 2013, namely 31.78% and, the lowest percentage in 2011 was 26.04%. The impact of economic growth on poverty in Jambi Province, where the economic growth variable has no effect and is not significant on the poverty variable or its unit value on poverty is negative. This shows that economic growth does not affect poverty in Jambi Province.

Capital Expenditure has a negative and significant influence on Economic Growth, Economic Growth has a negative and significant influence on Community Welfare, and Expenditure has a positive and significant influence on Community Welfare (Sita, 2017). Meanwhile, partially, the variables of domestic investment and capital expenditure have a significant effect on social welfare, while economic growth and foreign investment have no significant effect on social welfare in Central Java Province (Nisa & Handayani, 2021).

There is a growing concern in many developed economies that the benefits of economic growth are not shared equitably. This is particularly the case in the UK, where economic growth has been geographically uneven and often biased towards already affluent cities. Yet there is relatively little evidence on the relationship between growth and poverty in the UK. Research (Lee & Sissons, 2016) finds little evidence that output growth reduced poverty. And there was no relationship between economic growth and the low-skilled employment rate. These results suggest that growth in 2018 was far from

The Population

Welfare will change if the level of people's lives changes. This means that the concept of poverty is dynamic so poverty will always exist. Some researchers view poverty from various aspects of social inequality. The greater the gap between the upper class and the lower class, the greater the number of people who can be categorized as poor, so that it is relatively closely related to the problem of the income distribution (Ginting & Rasbin, 2020).

The factor of labor productivity is a factor that needs to be considered. Bearing in mind that with population growth, the number of workers will increase, on the other hand, with a fixed amount of infrastructure, the increase in labor in the industrial and service sectors will reduce the amount of production (output) in the industrial and service sectors. In other words, Ricardo stated that with limited land area, population growth (labour) will reduce the marginal product (marginal product) which is known as “the law of diminishing marginal product” (Asjari, 2015).

The theory of economic growth is one of the foundations to determine the development of economic growth. Economic growth has a direct impact on increasing and equalizing people's incomes and reducing the number of poor people. The economic growth of a region is an increase in the results of economic activities of all economic units in a region, generally known as an increase in GRDP (Ribeiro & Lemos Martins, 2017). The success of development in an area can be seen from its economic growth which illustrates the impact of the implemented development policies. Economic growth explains or measures the achievement of the development of an economy. Factors that affect economic growth, namely: population, the total stock of capital goods, land area and natural resources, and the level of technology used (Pratiwi & Indrajaya, 2019).
Java Island is an island with a large population among other islands and has high economic activity in Indonesia. West Java is a province with a high economic growth rate. But high economic growth has not been followed by equal distribution of people's income. One of the measurement tools used to measure income inequality is the Gini index. The closer to 1 the greater the inequality value, the closer to 0 the smaller the inequality value (Febrantto, 2017).

The record population growth of the Philippines was comparable to its neighbors (Myanmar and Laos) in the 1980s and 1990s, even though the proportion of points or lower. A very striking divergence occurred in the “lost decade” of the 2000s when its neighbors averaged about 6% annual growth. (In per capita terms the difference is still bigger since the 2000s the population growth rate of the Philippines has been much higher.) Growth rate differentials narrowed in the 2010s, but for most of the decade, The Philippines continues to lag far behind in its welfare from ASEAN countries (Singapore, Thailand, Indonesia) (Baliscanac & Hill, 2013).

Community Welfare
Development is a process of change that is pursued continuously and is expected to improve people's welfare for the better. The government must continue to carry out development in all fields, both in the fields of health, education, and a more decent life. Human development is defined as a process to increase the choices possessed by humans. Among these many choices, the most important choices are to live a long and healthy life, to be educated, and to have access to the resources needed to live a decent life. Therefore, most countries, both developed and developing, use the Human Development Index (HDI) or the Human Development Index (IPM) as an indicator to assess the quality of human resources (Shavira et al., 2021).

Economic development is an effort to increase real per capita income in the long term and is followed by an improvement in the institutional system. Development has the goal of creating social welfare. Community welfare can be seen from increased economic growth and even the distribution of income (Sholihah & Kustanto, 2017). Regional autonomy is one of the means to create better development. Through policies, economic growth and social welfare can be improved. Local governments will be more efficient in managing available resources in each region and providing public goods to expedite economic activity (Sholihah & Kustanto, 2017).

Research in Brazil shows one of the goals of economic development is to improve people's welfare. Benchmarks for the success of development can be seen in terms of economic growth, economic structure, and the narrowing income gap between residents, between regions, and between sectors within a region (Ribeiro & Lemos Marinho, 2017). The main goal of economic development apart from creating high growth must also think about ways that can eliminate or reduce poverty rates, income gaps, and unemployment rates. Economic development can be interpreted as a series of efforts in an economy to develop its economic activities so that more infrastructure is available, more and more companies are growing, education levels are getting higher, and technology is increasing. As an implication of this development, it is hoped that job opportunities will expand, education levels will increase, and people's prosperity will improve (Sari et al., 2019).

Research in Malaysia shows the need for labor will also expand employment opportunities and have an impact on increasing people's income so that people's welfare increases if high economic growth will result in economic activity and more open job opportunities. This kind of condition will bring logical consequences to the creation of a pull factor for residents of areas with lower income growth and levels to seek work in areas with higher income levels. Economic growth is a process of increasing output per capita in the long term. It contains three main things, namely process, output per capita, and long-term. The process shows that economic development will continue to change from time to time, in economic development the level of per capita income is continuously increasing, while an increase in economic growth is not necessarily followed by an increase in per capita income (Mahmut et al., 2022).

**MATERIAL AND METHODS**

This study analyzes economic growth and population that may or may not affect the welfare of farmers in Subang Regency, West Java Province, Indonesia. This study uses a quantitative approach that emphasizes its analysis of numerical data which is processed using statistical methods in the form of multiple linear regression and panel data which combines time series data for the period 2017 – 2021 which is processed from literature.

A literature study is a research carried out using literature, namely research that aims to obtain secondary data by reviewing several journal articles and books related to macroeconomic indicators, namely economic growth, population growth, and community welfare. Data were taken from the Subang Regency Livestock and Animal Health Service, West Java Province Food Security and Animal Husbandry Service, the Central Bureau of Statistics (BPS) Subang Regency, and West Java BPS as well as data from related journal articles and books. Data Analysis Techniques using multiple regression analysis techniques. The research equation model can be seen from the following equation:

\[ Y = a + b_1X_1 + b_2X_2 + e \]

**description:**

- \( Y \) = Farmer Welfare
- \( X_1 \) = Economic Growth
- \( X_2 \) = Total Population
- \( a \) = Intercept or constant
- \( b_{1,2} \) = Regression coefficient
- \( e \) = Standard Error

A statistical T-test was also carried out to show how far the influence of one explanatory variable individually explained the variation of the dependent variable. The
t-test statistical formula follows is:

\[
th = \frac{b1}{SE(b1)}
\]

description:

- \( th = \) calculated t value
- \( b1 = \) regression coefficient
- \( SE(b1) = \) Standard error in the regression coefficient

Hypothesis testing steps:

- **H0 :** \( ts < 0 \) : indicates that there is no effect between economic growth and population with an increase in the welfare of breeders.
- **H1 :** \( ts > 0 \) : indicates that there is an influence between economic growth and population with an increase in the welfare of breeders.

The decision criteria are:

- a. If \( t \) count > \( t \) table, and sig < 0.05 then H0 is rejected and H1 is accepted.
- b. If \( t \) count < \( t \) table, and sig > 0.05 then H0 is accepted and H1 is rejected.
- c. Significant level = 5%.
- d. Degrees of freedom (df) = \( n - 3 \).

**RESULTS AND DISCUSSION**

**Classic Assumption Test**

**Normalitas Test**

The decision is whether the residuals are normally distributed by simply comparing the calculated JB (Jarque Bera) Probability value with an Alpha level of 0.05 (5%). If Prob. JB count is less than 0.05, it can be concluded that the residuals are normally distributed. The normality test can be done in two ways, namely the histogram and the Jarque Bera test which can be seen in Figure 1:

![Figure 1: Normality Test Results](source: Output Eviews 8 (secondary data processed in 2022))

Based on the processed data images using the eviews 8 programs, the results show that the JB (Jarque Bera) value is 774.3424 and the Probability value is 0.0000 (<5%), thus in this study it can be concluded that the residual values are normally distributed.

**Multicollinearities Test**

The testing of whether multicollinearity exists can be seen in the Centered VIF column table. If the VIF value is <10, it can be said that multicollinearity does not occur. The results of data processing are listed in Table 1.

**Table 1: Multicollinearity Test Results**

<table>
<thead>
<tr>
<th>Correlation Matrix</th>
<th>X1</th>
<th>X2</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1</td>
<td>1.000</td>
<td>0.279708</td>
</tr>
<tr>
<td>X2</td>
<td>0.279708</td>
<td>1.000</td>
</tr>
</tbody>
</table>

**Autocorrelation Test**

Testing for autocorrelation symptoms can be done using the Breusch-Godfrey method or more generally known as the langrange multiplier (LM) test. As for data processing as in Table 2.

**Table 2: Autocorrelation test results**

<table>
<thead>
<tr>
<th>F-statistic</th>
<th>Prob. F (2,115)</th>
<th>0.0000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obs*R-squared</td>
<td>56.65150</td>
<td>Prob. Chi-Square (2)</td>
</tr>
</tbody>
</table>

Breusch-Godfrey Serial Correlation LM Test:

- Test Equation: Dependent Variable: RESID Method: Least Squares
- Date: 12/26/22 Time: 11:54
- Sample: 2022M01 2022M12
- Included observations: 120.

Based on the output results in Table 1, it appears that the variables X1 (population growth rate) and X2 (unemployment rate) have a coefficient of 0.279708 <0.8, so it can be said that there is no linear relationship between the three variables.
Variable | Coefficient | Std. Error | t-Statistic | Prob.
---|---|---|---|---
C | 2.249785 | 6.835326 | 0.329141 | 0.7426
X1 | 0.055493 | 0.340436 | 0.163007 | 0.8708
X2 | -0.051885 | 0.112414 | -0.461553 | 0.6453
RESID (-1) | 0.765261 | 0.092457 | 8.276947 | 0.0000
RESID (-2) | -0.122392 | 0.092528 | -1.322754 | 0.1885
R-squared | 0.472096 | Mean dependent var | 5.45E-15
Adjusted R-squared | 0.453734 | S.D. dependent var | 14.70966
S.E. of regression | 10.87188 | Akaike info criterion | 7.651010
Sum squared resid | 13592.74 | Schwarz Criterion | 7.767155
Log likelihood | -454.0606 | Hannan-Quinn criter. | 7.698177
F-statistic | 25.71064 | Durbin-Watson stat | 2.020370
Prob(F-statistic) | 0.000000

Source: Output Eviews 8 (secondary data processed in 2022)

Square is 0.0000 (<5%), thus it can be concluded that the data does not contain autocorrelation problems.

Table 3: Park Test Results

<table>
<thead>
<tr>
<th>F-statistic</th>
<th>Prob. F (2,117)</th>
<th>0.0000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obs*R-squared</td>
<td>37.66902</td>
<td>Prob. Chi-Square (2)</td>
</tr>
<tr>
<td>Scaled explained SS</td>
<td>33.72028</td>
<td>Prob. Chi-Square (2)</td>
</tr>
</tbody>
</table>

Heteroskedasticity Test: Harvey Test Equation:
Dependent Variable: LRESID2
Date: 12/26/22 Time: 11:54
Sample: 2022M01 2022M12
Included observations: 120

| Variable | Coefficient | Std. Error | t-Statistic | Prob.
---|---|---|---|---
C | 5.595456 | 1.107654 | 5.051627 | 0.0000
X1 | -0.402890 | 0.055181 | -7.301309 | 0.0000
X2 | 0.045391 | 0.018195 | 2.494688 | 0.0140
R-squared | 0.313909 | Mean dependent var | 2.909312
Adjusted R- squared | 0.302180 | S.D. dependent var | 2.110598
S.E. of regression | 1.763100 | Akaike info criterion | 3.996707
Sum squared resid | 363.6971 | Schwarz Criterion | 4.066394
Log likelihood | -236.8024 | Hannan-Quinn criter. | 4.025007
F-statistic | 26.76560 | Durbin-Watson stat | 0.688053
Prob(F-statistic) | 0.000000

Source: Output Eviews 8 (secondary data processed in 2022)

Interpretation
The results of the eviews state that the prob. X1 is 0.0000 (<5%) indicating that the data does not contain heteroscedasticity while X2 obtains a prob value. 0.0140 (<5%) the data on variable X2 does not contain heteroscedasticity problems and passes the Park test.

Multiple Linear Regression Analysis
The data analysis method used is multiple linear regression with the use of least squares equations in model estimation. Multiple linear regression is used to determine the functional relationship between the dependent variable (Y) and the independent variable X1 simultaneously with the independent variable X2. A linear regression model with one independent variable can be formulated as follows:

\[ Y = a + b_1X_1 + b_2X_2 + e \]

description:
Y = dependent variable (tied) in this case the welfare of breeders.
a = Intercept shows the value of Y when X = 0
b1 = regression coefficient, which is the magnitude of the change in variable Y due to changes in each unit of variable X1.
b2 = regression coefficient, which is the magnitude of the change in variable Y due to changes in each unit of variable X2.
X1 = Independent variable 1 (free) in this case economic growth
X2 = Independent variable 2 (free) in this case the...
Multiple regression analysis in this study was used to determine the effect of economic growth and population on the welfare of farmers in Subang Regency. The formulation of the multiple regression equation in this study is as follows:

\[ Y = a + b_1X_1 + b_2X_2 + e \]

\[ Y = 10.0470 -1.1637 + 0.4482 + e \]

**Information**
- \( a \) = constant 10.0470
- \( X_1 \) = economic growth
- \( X_2 \) = total population
- \( b_1 \) = -1.1637
- \( b_2 \) = 0.4482

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

a. Based on the regression equation, it shows that the constant value (\( a \)) is 10.0470, which means that if economic growth and population are equal to 0, the average welfare of breeders is 10.0470%.

b. Based on the regression equation, it shows that the value of the regression coefficient of economic growth is -1.1637 with a negative value, meaning that for every 1-time decrease in economic growth, the welfare of farmers will decrease by -1.1637 assuming other variables are constant.

c. Based on the regression equation, it shows that the regression coefficient value of the population is 0.4482 with a positive value, meaning that if every increase in the population is 1 time, the welfare of breeders will increase by 0.4482 assuming other variables are constant. That is, if the population increases, the welfare of breeders also increases.

**Interpretation**

**t test (Partial)**

Variable \( X_1 \) (economic growth) obtains a coefficient value of -1.1637, a t-statistic value of -2.5066, and a probability value of 0.0136 (<5%), the variable \( X_1 \) (economic growth) has a positive effect on \( Y \) (breeder welfare).

Variable \( X_2 \) (population) obtains a coefficient value of 0.4482, a t-statistic value of 2.9277, and a probability value of 0.0041 (<5%), so the variable \( x_2 \) (population) has a positive effect on \( Y \) (breeder welfare).

**Simultaneous f test**

The probability value of the f-statistic is 0.0038 (<5%), so simultaneously Variables \( X_1 \) (economic growth) and \( X_2 \) (population) have a significant effect on variable \( Y \) (breeder welfare).

**Coefficient of Determination**

The R-Squared value is 0.0906, the \( X_1 \) variable (economic growth) and \( X_2 \) (population) affect the \( Y \) variable (breeder welfare) by 9.06%.

The statistical test results of multiple linear regression analysis with the SPSS program can be seen in the table 4.

**Source:** Output Eviews 8 (secondary data processed in 2022)
the population increases, the quantity of work will also increase which increases the amount of production, and if the number of production increases but the community is unable to fulfill it, it will lead to an increase in the welfare of breeders. Conversely, whenever the population decreases, the quantity of work also decreases, which results in a decrease in the quantity of production.

The Effect of Population on the Welfare of Farmers in Subang Regency

The total population is an illustration of the percentage of the condition of the people around. Unemployment is already classified in the labor force, who is actively looking for work at a certain wage level but does not get the job he wants. The number of unemployed will have an impact on a region's economic growth in a certain period.

The results of the study regarding the population on the welfare of farmers in Subang Regency in 2020-2022 based on the calculation of multiple linear regression analysis on the unemployment rate variable obtained a probability value of 0.0041 <0.05 so that it can be said that the population has a significant effect on the welfare of farmers. Thus, the results of the study say that Ho is rejected, and Ha is accepted, meaning that the population has a significant effect on the welfare of breeders in Subang Regency in 2020-2022 partially. This research was then adapted to research (Piarna & Fathurohman, 2020) that all existing potential must be utilized to find, create and pursue work, meaning that we must work as hard and as much as we can to achieve prosperity.

The total population, the number of unemployed, which shows the number of unemployed people, and unemployment, which shows the percentage of unemployed, will show how much the population is unemployed or does not have a permanent job. (Fathurohman, 2018). The thing that is very concerning about unemployment in the world of livestock is not the number of unemployed themselves but what is the percentage of unemployed from the total workforce in the livestock sector (Patra et al., 2022). High unemployment will affect negative economic growth because economic growth will decrease along with high unemployment in a region. This is because unemployment will directly affect the less prosperous society which of course is in line with the welfare of breeders (Fathurohman, 2016).

The Effect of Economic Growth and Population on the Welfare of Farmers in Subang Regency

The results of the study using the multiple linear regression model (test F) obtained a probability value of 0.0038 <0.05 so it was concluded that simultaneously or jointly there is a significant influence between economic growth and population on the welfare of breeders. The results of the study can be concluded that Ho is rejected, and Ha is accepted, namely, economic growth and population have a significant effect on the welfare of breeders in Subang Regency in 2020-2022.

The conclusion from the results of this study presented that there is an effect of economic growth and population on the welfare of breeders in Subang Regency with the simultaneous test (F test) on the population growth variable which has a significant effect on the welfare of breeders during 2020-2022 period with a value of 0.0136. < 0.05. Partially, the results of the individual parametric significant test (t-test) on the variable number of unemployed residents have a significant effect on the welfare of breeders in 2020-2022 with a value of 0.0041 <0.05. The test results using the multiple linear regression model show that there is a significant influence with a value of 0.0038 <0.05 from the independent variables, namely economic growth and population have a significant effect on the welfare of farmers in Subang Regency. In addition, based on the results of the test for the coefficient of the determination, it shows that the magnitude of the independent variables of economic growth and population to explain the dependent variable is the welfare level of breeders with 0.38% and the remaining 99.62% is influenced by other factors such as inflation, level of education and so on. This research shows that the welfare of smallholder breeders is influenced by economic growth and population, the higher the economic growth and population of an area, the higher the level of welfare of breeders in that area. Recommendations from this study, there is a need for further research using other variables such as education level, and gender. It is also necessary to conduct more extensive research at the provincial and national levels.

REFERENCES


