Do Monetary Variables Influence the Poverty level In Aceh Province?

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Abstract

This study analyzes the influence of monetary variables on the rate of poverty in Aceh Province. The data used in this research is panel data from 23 districts and cities in Aceh, Indonesia, over the period of 2010-2016. The variables involved in this study are the poverty rate, inflation rate, and commercial bank credit as monetary variables. The controlled variables include economic growth and money from the Government Revenue Sharing Fund. The estimation results with the panel data model indicate that the variable of inflation has a positive effect on the poverty rate in Aceh. However, the variable of commercial bank credit has a negative relationship with poverty rate, but its effect is not significant. Based on these results, it is recommended that monetary authorities, in this case the Central Bank, should be able to maintain inflation stability, as rising inflation rates could reduce people's purchasing power and increase the poverty rate in Aceh.

Keywords: Poverty, Monetary Variables, Inflation, Commercial Bank Credit

INTRODUCTION

Aceh Province is an area with a high poverty rate, as of 2015. Poverty rates in Aceh vary, but there are several districts and cities that have been able to reduce poverty rates, such as Simeulue, South Aceh, Aceh Tamiang, Banda Aceh, and Lhokseumawe. Meanwhile, other regions still have high poverty rates, such as Pidie, Pidie Jaya, North Aceh, Nagan Raya and Bener Meriah.

Aceh also receives substantial Revenue Sharing Funds (DBH), but it has been unable to reduce poverty in the province. North Aceh is an area that receives a large amount of DBH and also has a high poverty level. Other factors that influence poverty include inflation and banking credit. According to Nogueira et al. (2012), price increases, especially in food, will reduce the economic well-being in low-income households in both urban and rural areas, as the percentage of household expenditures used for food will increase. This condition causes losses in household income. The inflation rate in Aceh can be proxied by the implicit price index. Based on 2015 data from Badan Pusat Statistik, the 3 regions with the highest inflation rates were Langsa District (4.25 percent), Aceh Jaya (4.03 percent), and Simeulue (3.97 percent).

Another factor is bank credit, which is also a variable that affects poverty. This is consistent with the conditions of credit distribution in Aceh. There are several areas with high levels of banking credit distribution and lower poverty rates, such as Banda Aceh, Lhokseumawe and Langsa.
It is necessary to examine the relationship between variables relating to monetary economics, as well as macroeconomic variables, and the poverty rate in different regencies and cities in Aceh. The question examined in this study is, how do monetary variables influence the poverty rate in Aceh regencies and cities? In addition, the study examines how economic growth affects the poverty rate in districts and cities in Aceh.

2. LITERATURE REVIEW

Neaime & Gaysset [2] used the generalized method of moments (GMM) method and the generalized least squares (GLS) method to examine data from eight MENA countries from 2002-2015. This study analyzes the impact of financial inclusion on income inequality, poverty, and financial stability. The results show that financial inclusion reduces income inequality, while population size and inflation will increase income inequality. However, other studies have shown that financial inclusion does not have a significant effect on poverty, while population, inflation and trade openness do have a significant effect on poverty. Finally, empirical evidence shows that financial inclusion is a contributing factor to financial instability in MENA.

Ampah, et al [3] (2017) looked at the impact of credit access and financial services on poverty reduction in the central area of Ghana. The study found that credit access and financial services have a positive influence on income growth and consumption. But these factors have only a weak impact. The study also found that credit services have a positive impact on education, especially education in financial skills.

Anwar, et al [4] (2016) also analyzed the effect of financial inclusion on reducing poverty in Indonesia. According to this research, financial inclusion became a new phenomenon in the global financial system, including in Indonesia. Using 2005 - 2013 panel data from 31 provinces in Indonesia, the study showed that financial inclusion has a significant and positive impact on investment, where increases in financial inclusion cause increases in investment. In addition, financial inclusion also has a significant effect on poverty.

Chani, et al [5] (2011) used an ARDL model for co-integration to show a long-term relationship between the variables of poverty, economic growth, inflation, investment, and trade openness during the period of 1972-2008. Empirical results show that economic growth and investment have a negative impact on poverty, while inflation has a positive impact on poverty and trade openness has no significant impact. Short-term analysis shows that economic growth has a negative impact and inflation has a positive impact on poverty, while the role of investment and trade openness in poverty reduction is not significant in the short term.

Fujii [6] (2011) simulated the impact of rising food prices on poverty between June 2006 and June 2008 for various households who have income from agricultural activities. The results of this study show that the poverty gap and poverty severity were due to the fact that households who work in agriculture are very vulnerable to food price inflation. This research also showed no food substitution, as it is very limited among the poor.

Irawan, et al. [7] (2010) analyzed the impact of inflation on poverty at the national, urban and rural levels. In addition, the study also measured the contribution of each inflation commodity group to the poverty rate and its impacts on urban and rural poverty rates. Irawan et al used demand theory to measure the elasticity and price index for the poor (PIP). The results showed that rural poor households are more vulnerable to economic shocks, especially inflation.

Obeng[8] (2011) assessed whether or not microfinance had produced positive or negative results in reducing poverty. This study focused on the fact that particularly vulnerable and marginalized people get access to credit. Most rural poor people also tend to look at microfinance institutions as a means of accessing credit.

3. RESEARCH METHODS

The data used in this study was secondary panel data from 2010-2016 about districts and cities in Aceh. This study uses descriptive qualitative and quantitative analysis with panel data. After the panel data testing phase, the panel data was regressed using the ordinary least square (OLS) method with the multiple linear regression equation:

\[
POV = f (\text{Growth, DBH, INFLASI, Loan})
\]  

(1)
Where POV is the poverty rate, GROWTH is economic growth, DBH is Revenue Sharing, Inflation is the variable of inflation, and LOAN refers to bank loans disbursed. For the panel data model used, the best model will be chosen out of three models, namely the common effect model, the fixed effect model, and the random effects model.

4. RESULTS

In general, although the poverty rate in Aceh has decreased, it is still relatively high compared to the national poverty rate. The central government has attempted to stimulate the Aceh economy with special autonomy (otsus) funds, but in reality, over the past five years the gap between the national poverty rate and the poverty rate in Aceh has remained very large and has not changed much. This condition is also exacerbated by the high inequality between regions in different districts and cities in Aceh, which means that high income levels are not evenly distributed, so there are still many residents who have not experienced increases in their economic well-being.

![Poverty in Aceh](image)

**Fig. 1:** Poverty in Aceh

**Chow Test**

The Chow Test aims to find out which model choice is best: the common effect or the fixed effect.

**Table 1:** Chow Test

<table>
<thead>
<tr>
<th>Redundant Fixed Effects Tests</th>
<th>Test cross-section fixed effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pool: POOL01</td>
<td></td>
</tr>
<tr>
<td>Effects Test</td>
<td>Statistic</td>
</tr>
<tr>
<td>Cross-section F</td>
<td>2.066962</td>
</tr>
<tr>
<td>Cross-section Chi-square</td>
<td>47.041929</td>
</tr>
</tbody>
</table>

The results were determined using the Chow Test, as shown above. The probability value obtained for the chi-square statistic was 0.0014 < α = 0.05. This means that H0 is rejected and H1 is accepted, so the fixed effect model is more appropriate to use than the common effect model.

**Hausman Test**

This test is used to determine which model works best, the fixed effect model or the random effect model.
5. DISCUSSIONS

Based on the estimation results, it can be seen that inflation, as a monetary variable, has a positive and significant effect on the poverty rate in Aceh. The coefficient of the variable of inflation is 0.54. This means that if inflation increases by 1 percent, poverty will increase by 0.54 percent. This result is consistent with the research by Chani, et al [5], which claims that inflation causes income loss and can therefore lead to increased poverty rates. This coefficient is statistically significant, as seen from its probability value, which is smaller than 0.05. In Aceh, there are several commodities that contribute to increasing poverty, including rice, cigarettes and other volatile food commodities [9]. The increase in these commodities’ prices has caused many people to become poor.

Table 3: Estimated Fixed Effect Models

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-7.273163</td>
<td>1.946032</td>
<td>-3.737433</td>
<td>0.0003</td>
</tr>
<tr>
<td>FIN_INC</td>
<td>-1.15E-08</td>
<td>1.39E-08</td>
<td>-0.830138</td>
<td>0.4079</td>
</tr>
<tr>
<td>DBH</td>
<td>3.35E-07</td>
<td>8.11E-06</td>
<td>0.041263</td>
<td>0.9671</td>
</tr>
<tr>
<td>INFLATION</td>
<td>0.539965</td>
<td>0.103246</td>
<td>5.229884</td>
<td>0.0000</td>
</tr>
<tr>
<td>GROWTH</td>
<td>0.286176</td>
<td>0.124335</td>
<td>2.301660</td>
<td>0.0229</td>
</tr>
</tbody>
</table>

The other monetary variables examined include financial inclusion, proxied by a variable representing the number of commercial bank loans distributed in districts and cities in Aceh. Based on the estimation results, the loans disbursed by commercial banks have a negative effect on the poverty rate, with a coefficient of -1.15E-08. This negative effect may be due to the fact that such loans are directed towards wealthier segments of the population, potentially widening the gap between the rich and the poor.
relationship between commercial bank credit disbursed and poverty level is in accordance with previous research conducted by Seftarita & Tabrani [9]. Unfortunately, the effect of this variable is insignificant, which can be seen from its probability value, which is greater than 0.05. The amount of credit disbursed in districts and cities in Aceh is relatively small. Credit distribution is also still concentrated in urban areas, while in rural areas it is minimal. This issue is related to the limited availability of financial sector infrastructure.

Other variables that were used as control variables in this study were economic growth (growth) and profit-sharing funds (government revenue-sharing funds, in this case denoted by DBH). Both of these variables were shown to have a positive influence on poverty, which is somewhat contrary to the hypothesis put forth in this study, in which the two variables were thought to be negatively related. The variable of economic growth was recorded to have a positive and significant influence, with a 5 percent level of confidence. The coefficient of economic growth was recorded at 0.28, which means that an increase of 1 percent in economic growth in Aceh will increase poverty by 0.28 percent.

Aceh is one of the poorest provinces in Indonesia. Economic growth in Aceh is relatively low compared to other provinces. This is consistent with the results of research by Chani, et al [5], where the variable of economic growth was shown to have a negative effect on poverty, while inflation was shown to have a positive effect on poverty.

6. CONCLUSIONS AND RECOMMENDATIONS

A monetary variable, in this case inflation, is shown to increase poverty in Aceh. Inflation causes income loss, so that inflation can greatly affect the well-being of people who are classified as poor. The monetary authority, namely Bank Indonesia, must always maintain the stability of inflation so that it does not significantly affect citizens’ well-being.

Banking credit has not been able to reduce poverty. Some constraints still limit financial infrastructure, especially in rural areas. This must be the concern of the government, monetary authorities, and banks.

The government must also strive to improve the quality of economic growth so as to reduce poverty. Economic growth is expected to be felt by the community through the availability of employment. In addition, the government must try to reduce the gap in economic growth rates between regions.

REFERENCES