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EFFECTIVENESS OF ZAKAT AND ISLAMIC BANKING FINANCING IN REDUCING POVERTY: EVIDENCE FROM ACEH

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Abstract

This study aims to analyze the influence, exchange rates and interest rates on economic growth. Inflation, exchange rates and interest rates are important variables in macroeconomics. This study uses time series data from 1980-2017. To see the effect of the independent variables on the dependent variable, the Ordinary Least Square analysis model is used. The research results obtained: conversion, exchange rates and interest rates are negative and significant to economic growth. Increased inflation, the exchange rate and interest rates will contribute to a decline in economic growth. For this we need a monetary policy that is able to provide stimulus to growth, a priority for increasing interest rates. Bank Indonesia as a monoteric authority holder can do it through monetary policy. Inflation and the exchange rate are the consequences of economic openness.

Keywords: Inflation, Exchange Rates, Interest Rates and Economic Substitution

1. Introduction

Poverty is one of the economic challenges still faced by Indonesia, including in Aceh Province. High poverty rates can impact public welfare due to their association with low income, limited employment opportunities, and limited access to education and healthcare. According to data from the Central Statistics Agency (BPS), poverty rates in Aceh remain relatively high compared to several other provinces in Indonesia. This situation highlights the need for effective efforts to reduce poverty and improve public welfare.

From an Islamic economic perspective, zakat is considered a tool for poverty alleviation. Zakat serves not only as an act of worship but also as a means of equalizing income and improving social welfare. Proper distribution of zakat is expected to help underprivileged communities meet their living needs and improve their economic conditions. Aceh, as a region that implements Islamic law,

has significant zakat potential, and proper management is expected to have a positive impact on reducing poverty.

In addition to zakat, progress in the Islamic banking sector is also a crucial factor in supporting poverty alleviation. Financing provided by Islamic banks can be utilized by the public for productive activities such as the development of micro, small, and medium enterprises (MSMEs). Based on data from the Financial Services Authority, the development of Islamic banking financing in Indonesia has increased year after year. This increase is expected to stimulate economic growth and reduce poverty. Furthermore, the Human Development Index (HDI) is also an important indicator. in measure level welfare society. A high HDI indicates improved human resource quality through education, health, and a decent standard of living. With improved human resource quality, communities are expected to have greater capacity to increase their income and standard of living.

A number of study previously show that zakat, Islamic banking financing, and the Human Development Index (HDI) influence poverty levels. However, previous research has shown varying results, necessitating further research, particularly in Aceh Province. Therefore, this study aims to analyze the influence of zakat, Islamic banking financing, and the Human Development Index (HDI) on poverty levels in Aceh Province from 2019 to 2024.

2. Literature Review

2.1 Inflation

Inflation refers to a condition of continuous, general price increases. An increase in the price of one or two goods cannot be called inflation unless it results in an increase in the price of other goods. Mishkin (2008) defines inflation as a sustained and persistent increase in the price level affecting individuals, businesses, and governments. This results in decreased purchasing power and is followed by a weakening of the real value of a country's currency. Inflation indicates the general rate of price change for various types of products over a certain period (monthly, quarterly, or yearly). The consumer price index (CPI) is an indicator for calculating the rate of inflation (Mankiw, 2007). The CPI is a general indicator used to describe price movements. The CPI contains data on changes in prices paid by consumers (on average) for a specific group of goods and services. Inflation is a crucial issue that must be resolved and is often a top agenda for politicians and policymakers (Mishkin, 2008). Inflation is caused by two factors: the demand side (demand-pull inflation) and the supply side (cost-push inflation).

Demand- pull inflation is caused by factors that shift the aggregate demand (AD) curve, creating excess demand, and then prices rise. An increase in aggregate demand occurs when the unemployment rate is below the natural rate. They will strive to achieve a higher output target than the natural rate. To increase aggregate demand, this condition shifts the aggregate demand curve. As a result,

an increase in prices occurs. Demand-pull inflation results in a higher inflation rate. Cost-push inflation states that inflation occurs as a result of a shift in the aggregate supply (AS) curve, which usually occurs at full employment. At this level, wages and salaries tend to increase, resulting in increased production costs. A short-term leftward shift of the AS curve, from AS1 to AS2 to AS3 and so on, will cause the supply curve to shift to the right continuously. The result is a price increase from P1 to P2 to P3 and so on.

2.2 Exchange Rate

The exchange rate is the price level agreed upon between two countries in trade (Mankiw, 2007). The exchange rate is the amount of domestic currency required, namely the number of rupiah needed to obtain 1 unit of foreign currency. The exchange rate is one of the variables
important in an open economy. The exchange rate influences other variables, such as: price levels, interest rates, the balance of payments, and the current account. *Mundell-Fleming Theory* mention exchange rate own A negative relationship with economic growth. If the exchange rate rises, it will result in lower exports. A decrease will impact output and will affect GDP. This condition indicates a decline in economic growth. The exchange rate is influenced by changes in demand and supply for traded goods/services and investment flows. Conceptually, exchange rates are distinguished: nominal exchange rates, real exchange rates, and effective exchange rates. The nominal exchange rate (*e*) is the par value *used* by each country, commonly called *the official rate.* Moosa (2003) formulated the nominal exchange rate as follows:

$$e = Pd \,/\, Pf$$

Where:

Pd: Domestic price level *Pf :* Foreign price level.

(q): Real exchange rate

The nominal exchange rate has been adjusted to the price level or inflation rate with the formula:

$$q = e \left(Pf \,/\, Pd \right)$$

Where:

e: Nominal exchange rate,

Pf: Price level abroad

Pd: Domestic price level

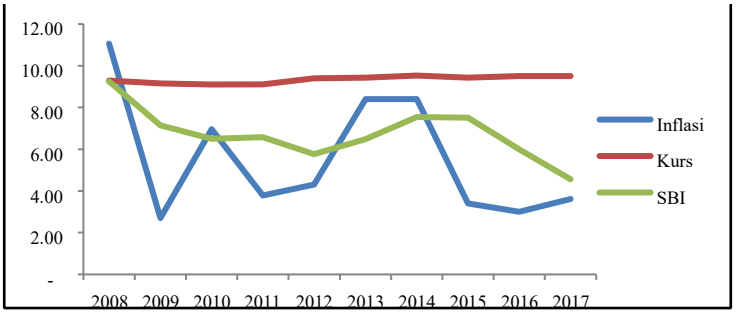
The real exchange rate between two countries is calculated from the nominal exchange rate and the price levels in both countries. If the real exchange rate is high, imported goods are relatively cheap, and domestic goods are relatively expensive. The real exchange rate influences macroeconomic conditions, particularly *net exports* or the trade balance. This influence can be formulated as a relationship between the real exchange rate and *net exports* or the trade balance.

2.3 Interest Rates

The interest rate is essentially a price, expressed as a percentage per year, charged based on the amount of money borrowed. The interest rate is the annual interest payment on a loan, expressed as a percentage of the loan obtained by dividing the amount of interest received annually by the loan amount. Perlambang (2017) states that fluctuations in interest rates will have important implications for both the real and monetary sectors of the economy. High interest rates will make investment in the real sector difficult. However, high interest rates tend to provide a strong incentive for people to save. Figure 1 shows the movement of inflation, exchange rates, and interest rates in the period 2008 to 2017.

Figure 1

Inflation, exchange rate, and SBI trends for the 2008-2017 period



Source, Data processed, 2019

Bank Indonesia, through its monetary policy (*policy rate*), can raise or lower interest rates (SBI), thereby influencing interbank interest rates. Interest rates stimulate savings, control money supply, and influence the supply and demand of money. Interest rates serve as a central bank tool for controlling inflation. High interest rates can increase *the cost of money,* weaken export competitiveness, reduce investment, and reduce production, ultimately leading to a decline in output (Subagjo, 2005).

2.4 Economic Growth

Economic growth indicates an increase in the economy's ability to produce (potential GDP) over time. An increase in potential output occurs when there is an increase in natural resources, human resources, capital, and technology, which are interrelated with an increase in real GDP and an increase in output per capita. An increase in output per capita indicates the availability of goods and services per person, and which indicates an increase in the standard of living in the economy (Salvatore and Diulio, 2003). GDP per capita growth is an indicator of economic growth. GDP per capita is obtained from the total gross domestic product divided by the population. GDP is the sum of the gross value added of all producers in the economy plus taxes and minus subsidies, and does not include the value of products at constant prices.

2. Research Methods

3.1 Data Types

This study uses secondary data in the form of annual time series data, with a research period of 1980-2018. Several variables are used to determine the influence of the independent variables on the dependent variable of economic growth. The independent variables used consist of: inflation, exchange rates, and interest rates (SBI), which are important variables in macroeconomics (Hazmi, 2018).

Table: 1
Variables and Data Sources

Variable	Source	Unit
BI Economics, Ministry of Finance,	BPS	Percentage
BI Inflation,	BPS	Percent
Exchange Rate	, Ministry of Finance	Rupiah
BI Interest Rate,	Ministry of Finance	Growth Percentage

3.2 Analysis Method andDataProcessing

This study uses the *Ordinary Least Squares (*OLS) analysis model, also known as the least squares estimation method. This model is used to analyze the effects of inflation, exchange rates, and interest rates on economic growth. *The general equation in the OLS model is:*

$$Y_t = \beta_0 + \beta_1 X_t + \varepsilon_t$$

The OLS model equation in this study is:

$$PE_t = \beta_0 + \beta_1 Inf_t + \beta_2 Infl_t + \beta_3 Exchange\ rate_t + \beta_4 SB_t + \varepsilon_t$$

Where:

PEt	: Economic Growth (Percent) at time t
Info	: Inflation (Percent) at time t
Course t	: Exchange rate (Rupiah) at time t
SBIt	: Bank Indonesia Interest Rate (Percent) at time t
εt	: Error Term

Before testing using OLS, a unit root test and model stability test are first performed. Model stability testing is performed using the cusum and cusumq tests. Model stability testing is intended to obtain evidence that the model used is sound or not, so that the results obtained are unbiased. The stability test refers to the cusum test. The stability test uses resursive residuals with standard deviation estimates in the observations used. If the resulting plot exceeds the test's significance limit, then the parameters in the observed model are unstable.

4. Results And Discussion

4.1 Results of Data Stationarity Test

From the results of the unit root test using *the ADF test,* the following results were obtained: inflation, exchange rates, interest rates, and economic growth were stationary at the level level. Table 2 shows the results of the unit root test.

Table 2
Unit Root Test Results with *ADF –Test*

Description Variable	t- Mackinnon Critical Statistics ADF	Value (5%)	
PE	-7, 851336	- 5,175710	stationary at I (0)
Information	-21, 89620	- 5,175710	stationary at I (0)
NT	-7, 261487	- 5,175710	stationary at I (0)
SB	-6, 358395	- 5, 175710	stationary at I (0)

Source: Processed data, 2019

4.2Model stability test

From the test results as shown in Figure 2 and Figure 3, it can be concluded that through the Cusum test, the results indicated stability in the observed model parameters. However, in contrast to the results of the *CusumQ test,* it was obtained that the parameters in the observed model did not have stability, especially in 1998 to 2000.

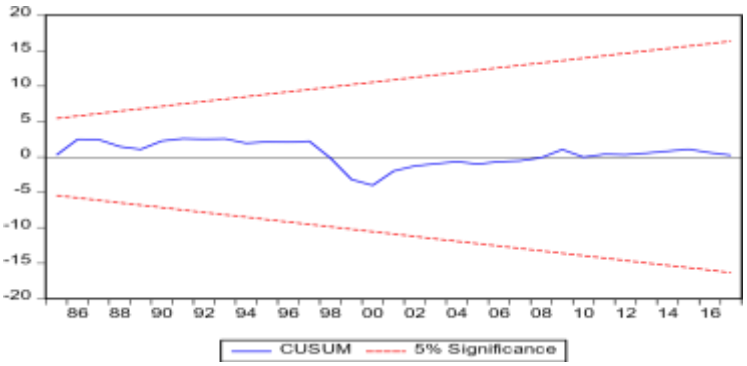


Figure 2. Results of the Cusum test

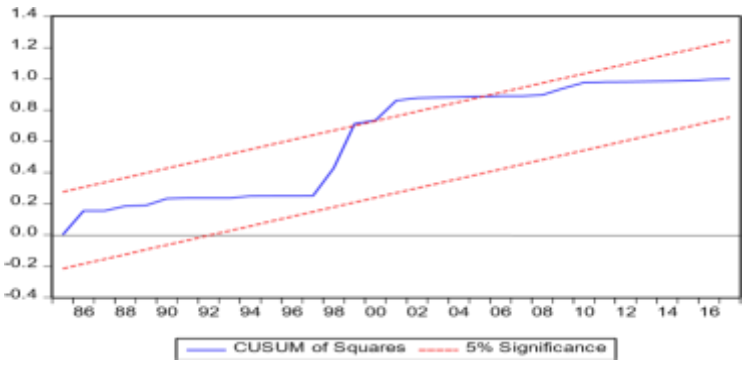


Figure 3. Cusumq test results

Least Squares Model Testing

From the results of *the Least Squares test* as shown in Table 3, it is proven that all inflation, exchange rate and interest rate variables have a negative and significant effect on the economic growth variable.

***Least Squares* Model Test Results**

Dependent Variable: PE
Method: Least Squares
Sample (adjusted): 1981 2017
Included observations: 37 after adjustments

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Variable	Coefficient	Std. Error	t - Statistics	Prob.
Information	-0.129242	0.033137	-3.900259	0.0004
Exchange rate	-0.000285	6.23E-05	-4.577146	0.0001
SBI	-0.212683	0.057316	-3.710706	0.0008
C	11.0688	0.843377	13.12439	0.0000
R-squared	0.809176	Mean dependent var		5.125135
Adjusted R-squared	0.791829	SD dependent var		3.467167
SE of regression	1.581923	Akaike info criterion		3.856966
Sum squared residual	82.58188	Schwarz criterion		4.031119
Log likelihood	-67.35386	Hannan-Quinn criter.		3.918363
F-statistic	46.64478	Durbin-Watson stat		1.387512
Prob(F- statistic)	0. 0000			

Source: processed data, 2019

This test shows that the variables of inflation, exchange rates, and interest rates (SBI) have a negative and significant effect on the economic growth variable (PE). The results of this study indicate a Rsuered of 0.809176 or 80.71 percent, proving that the variable selection has been carried out well. Meanwhile, other variables only provide an additional 19.29 percent. The results of this study are in line with previous research conducted by Hazmi (2019). If inflation, exchange rates, and interest rates increase, it will have an impact on reducing economic growth. For this, fiscal and monetary policies are needed that are able to control the level of inflation, exchange rates, and interest rates. This step is important as an effort to maintain the momentum of economic growth. To reduce the impact of the influence of inflation, especially imported inflation (commodities), it can be done by increasing domestic production. Similarly, with interest rates, high interest rates will result in increased production costs and hamper the investment climate. Meanwhile, to regulate exchange rate movements can be done by increasing exports and limiting imports. The government needs to provide incentives in the form of fiscal stimulus to exporters, such as reducing export tariffs.

5. Conclusion

The OLS test results have shown that inflation, exchange rates, and interest rates have a negative and significant effect on economic growth. Increases in inflation, exchange rates, and interest rates will result in a decline in economic growth. Economic growth indicates an increase in the economy's ability to produce goods and services. Efforts to control

Inflation, exchange rate stability, and interest rates are crucial in promoting economic growth. Exchange rates have a negative relationship with economic growth. A decline in output leads to a decline in GDP, which is in line with the *Mundell-Fleming theory.* In an open economy, inflation (imports) and unstable exchange rates tend to negatively impact export performance. This requires efforts to utilize domestic products and improve export performance through incentives such as lowering export tariffs and restricting imports of certain goods.

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