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The Impact of Inflation on Economic Growth in West Sumatra

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Abstract

This research is important because uncontrolled inflation can reduce economic growth, weaken purchasing power, and increase inequality in West Sumatra. From an Islamic economic perspective, price stability is related to justice and welfare (*falah*), so this research is relevant for policy basis. This research aims to analyze the effect of inflation on economic growth in West Sumatra for the period 1985–2024 using a time series approach and an Islamic economics review. Secondary data were collected through documentation from official publications of the Central Statistics Agency (BPS) and analyzed using EViews through stationarity tests, classical assumption tests, and simple linear regression. The results show that inflation becomes stationary after differencing once, and the regression model meets the classical assumptions (no symptoms of normality, autocorrelation, and heteroscedasticity). Inflation is proven to have a significant negative effect on economic growth, with a p-value of 0.0000 <0.05. This indicates that increasing inflation tends to reduce economic growth in West Sumatra. In the perspective of Islamic economics, price stability is part of an effort to maintain economic justice and social welfare (falah) so that uncontrolled inflation can disrupt income distribution and reduce people's purchasing power. Therefore, controlling inflation is important not only economically, but also to realize the values of justice in the Islamic economic system.

INTRODUCTION

Inflation is a crucial economic indicator, and efforts are made to keep its rate low and stable to prevent macroeconomic problems that could disrupt overall economic stability. High and uncontrolled inflation reflects an unstable economy, characterized by a general and sustained increase in the prices of goods and services, which can ultimately exacerbate poverty in Indonesia (Salim Amir, 2021). Inflation is a monetary phenomenon whose fluctuations can trigger economic instability (Zulkarnain & Arif, 2025). When inflation is high, an increase in the amount of money circulating in the economy without an increase in the production of goods and services can push up prices and then reduce people's purchasing power, ultimately impacting the quality of life (Adila et al., 2024).

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Furthermore, high inflation can also be an obstacle in the process of a country's economic growth (Meiditambua et al., 2023). Maintaining price stability remains a key objective of macroeconomic policy in many countries worldwide (Islam, 2022). This effort is undertaken to support sustainable economic growth. Therefore, the primary focus of monetary policy is directed at controlling inflation, with the aim of strengthening the purchasing power of the currency and promoting stable long-term economic growth (Umaru, 2012).

Economic growth is one indicator of a country's development success (Erika Feronika Br Simanungkalit, 2020). Economic growth is the process of increasing per capita output that occurs sustainably over the long term. A country's economic condition can be seen from its rate of economic growth, making this growth a primary indicator of economic health. Therefore, the government has a responsibility to support economic growth (Budiman et al., 2025). Furthermore, economic growth is also a crucial requirement for advancing the country and improving the welfare of its people. If a country fails to encourage economic growth, it can trigger various new problems, both economic and social, such as increasing poverty rates (Salim Amir, 2021). Increasing economic growth is often the primary goal, this is because economic growth is often related to an increase in goods and services produced by the community (Soleman et al., 2022).

Inflation can have a positive impact on economic growth up to a certain point, but becomes counterproductive if it exceeds that threshold. One relevant empirical study is that conducted by Algaeed in Saudi Arabia, which found that inflation had a positive effect on non-oil and gas Gross Domestic Product (GDP) growth during the period 1985–2015, with a threshold (*threshold*) of 10 percent. If inflation is below this threshold, economic growth actually declines, while inflation above the threshold encourages an increase in growth of 0.20 percent (Algaeed, 2016). Linh in his research analyzed the relationship between inflation and economic growth in Vietnam during the period 1996–2023 using OLS regression with Newey-West standard errors. The study found that inflation has a positive short-term impact on growth, but is detrimental in the long run. In the long run, there is also a significant long-run relationship between inflation and economic growth (Nguyen Quang Linh, 2024). A panel study of 18 developed countries conducted by Chu using Dynamic Panel Threshold Regression found an inflation threshold of ≈1.44%. Below this threshold, inflation has a positive impact on growth, after which the relationship becomes negative and significant. This research supports the theory that low inflation can boost growth, but too high inflation can be a hindrance (Chu et al., 2019). Lubeniq analyzed 20 developing European countries. Using OLS, Fixed/Random Effects, and GMM estimation, they found a non-linear effect: a 1% increase in inflation is associated with a ~0.017% decrease in growth—a consistent negative effect across most models (Lubeniqi, 2023).

Furthermore, Sakinah in her research obtained the results that the importance of controlling inflation to encourage sustainable economic growth because inflation has a positive and significant influence on economic growth in North Sumatra in the period 2006–2024. (Sakinah, 2025). Asnidar in his research found that if there is an increase in inflation, it will decrease economic growth in East Aceh Regency. Inflation can have bad consequences because of the continuous increase in prices and the possibility that it cannot be afforded by all people (Asnidar, 2018).

Inflation is a major factor influencing economic growth, a monetary phenomenon that occurs everywhere and is difficult to avoid (Nasution et al., 2024). A higher rate of inflation can hinder economic development and hamper economic activity, ultimately reducing economic growth (Salfina et al., 2023). Controlled and moderate inflation can be an indicator of healthy economic growth, while inflation that is too low or too high can hinder development (Ismail et al., 2025). Although

inflation has a negative impact on economic growth, it does not necessarily mean reducing the inflation rate to zero percent. Zero percent inflation does not stimulate economic growth (Octavia et al., 2024). In the long term, the prospects for economic development will worsen if high and uncontrolled inflation occurs because it will reduce exports and increase imports of goods, thereby slowing economic growth (Nabila & Udjianto, 2023).

Table 1
Inflation and Economic Growth in West Sumatra 1985 – 2024

Year	Inflation (in percent)	Economic Growth (in percent)
1985	3.27	4.26
1986	7.84	5.04
1987	7.78	5.23
1988	3.77	6.58
1989	3.56	7.22
1990	6.74	7.03
1991	11.32	6.32
1992	2.92	6.69
1993	9.28	6.92
1994	8.73	7.45
1995	8.36	8.93
1996	7.32	7.83
1997	10.72	5.4
1998	87.2	-6.49
1999	4.23	1.59
2000	10.99	3.84
2001	9.86	6.63
2002	10.22	4.31
2003	5.55	5.26
2004	6.98	5.47
2005	20.47	5.73
2006	8.05	6.14
2007	6.9	6.34
2008	12.68	6.88
2009	2.05	4.28
2010	7.84	5.94
2011	5.37	6.34
2012	4.16	6.31
2013	10.87	6.08
2014	11.58	5.88
2015	1.08	5.41
2016	4.89	5.27
2017	2.02	5.3
2018	2.6	5.16
2019	1.66	5.05
2020	2.11	-1.61
2021	1.4	3.29
2022	7.43	4.36
2023	2.47	4.62
2024	0.89	4.36

Source: BPS West Sumatra, processed

Based on Table 1.1 above, West Sumatra Province experienced sharp fluctuations in inflation rates from 1985 to 2024. The highest inflation rate was recorded in 1998 at 87.20%, a result of the Asian monetary crisis, which caused drastic price increases throughout Indonesia, including West Sumatra. On the other hand, the lowest inflation rate was recorded in 2024, at only 0.89%, reflecting the success of price controls and relatively good regional economic stability.

Meanwhile, West Sumatra's economic growth also exhibits dynamic variation. The highest growth occurred in 1995, reaching 8.93%, indicating a highly expansive economy ahead of the Asian crisis. Conversely, the lowest growth occurred in 1998, at -6.49%, indicating an economic recession due to the severe crisis. A significant decline also occurred in 2020, at -1.61%, due to the impact of the COVID-19 pandemic, which paralyzed various economic sectors at the national and regional levels. In general, over the past decade (2015–2024), inflation in West Sumatra has been relatively controlled and low, while economic growth has tended to be stable at around 4–5 percent, despite experiencing a contraction during the pandemic. This data indicates that the West Sumatran economy has undergone a process of recovery and stabilization, but still faces challenges in terms of regional prices and productivity. These dynamics demonstrate that there is not always a unidirectional relationship between inflation and economic growth. In some years, rising inflation is accompanied by slowing growth, while in other years, high inflation accompanies positive growth. Therefore, empirical analysis is needed to more deeply examine the relationship between inflation and economic growth in West Sumatra.

In the perspective of Islamic economics, price stability is an important part of maintaining economic justice and social welfare (Chapra, 2000). Islam prohibits practices that can cause price distortions such as hoarding of goods (*ichtikar*) because it can harm the wider community. The Prophet Muhammad (peace be upon him) forbade this practice as a form of protection for fair market mechanisms. Furthermore, according to Ibn Khaldun, inflation can be caused by unbalanced economic policies, such as excessive, unproductive spending, which ultimately reduces economic activity.

Thus, inflation control in Islamic economics aims not only to maintain macroeconomic stability but also to achieve distributive justice and sustainable prosperity (falah) (Mannan, 1997). Therefore, this study not only analyzes the relationship between inflation and economic growth empirically but also examines the results from an Islamic economic perspective.

Therefore, this study aims to empirically analyze the relationship between inflation and economic growth in West Sumatra Province during the period 1985–2024. This research is expected to provide a basis for data-driven regional economic policymaking, particularly in terms of inflation control and sustainable long-term economic growth planning.

METHODS

This study uses a quantitative method because the research data is in the form of numbers and the analysis uses statistics (Sugiyono, 2019). Quantitative research is a method used to test theories by measuring variables and analyzing data using statistical procedures (Creswell, 2014). The quantitative data processing stages in this study include several testing stages. First, a stationarity test is conducted (*stationery test*) to ensure that the time series data used is stationary, thus meeting the basic assumptions in time series regression. Next, classical assumption tests such as normality tests, heteroscedasticity tests, and autocorrelation tests are conducted to ensure the validity of the regression model. Finally, a hypothesis test is conducted to determine the significant effect of the inflation variable on economic growth. All statistical analysis processes are carried out using eviews software version 12, a

software commonly used in economic and financial research. Through the several stages mentioned above, this study is expected to be able to present valid and reliable findings in revealing the relationship between inflation and economic growth in West Sumatra in the long term.

In this study, the data source used is secondary data derived from published reports on inflation and economic growth in West Sumatra for the period 2015 to 2024 obtained from the official report of the West Sumatra Central Statistics Agency (BPS) available in the form of an annual publication. Secondary data is data collected from pre-existing documents or sources, such as books, archives, journals, annual reports, and scientific literature (Sugiyono, 2019). Based on the time of collection, the type of data used in this study is time series data (*time series*) collected periodically from year to year during the period 1985 to 2024. Use of data*time series*This is intended to capture the long-term dynamics of the relationship between inflation and economic growth and to observe the fluctuations and trends that occur in each phase of the economy.

RESULT AND DISCUSSION

A. Uji Stationery

1. Inflation Variable (X)

Null Hypothesis: X has a unit root
Exogenous: Constant
Lag Length: 0 (Fixed)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.018060	0.0000
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

*MacKinnon (1996) one-sided p-values.

The test results show that the ADF statistical value of -6.018060 is smaller than the critical value at the 1%, 5%, and 10% significance levels, which are -3.610453, -2.938987, and -2.607932, respectively. In addition, the probability value (p-value) of 0.0000 also indicates high significance below 5%. It can be concluded that the inflation data (X) is stationary.

2. Economic Growth Variable (Y)

Null Hypothesis: Y has a unit root
Exogenous: Constant
Lag Length: 1 (Fixed)

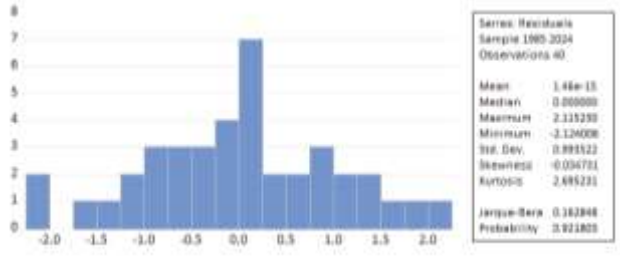
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.579359	0.0110
Test critical values:	1% level	-3.615588	
	5% level	-2.941145	
	10% level	-2.609066	

*MacKinnon (1996) one-sided p-values.

The test results show that the ADF test statistic value is-3.579359, while the critical value at the 5% significance level is -2.941145. In addition, the probability value (p-value) is 0.0110, which is smaller than the 5% significance level (0.05). Thus, it can be concluded that the economic growth variable (Y) is stationary at the level, because the ADF value is smaller than its critical value, and the p-value <0.05.

B. Classical Assumption Test

1. Normality Test



Based on the results obtained, the JB value is 0.162848 with a probability value of 0.921803, which is much greater than the 0.05 (5%) significance level. Thus, the data is normally distributed. This is also seen from the symmetrical shape of the histogram and resembles a normal distribution, as well as the skewness (-0.034731) and kurtosis (2.695231) values that are close to the standard normal distribution values (skewness = 0, kurtosis = 3). These results indicate that the regression model built has met the assumption of normality.

2. Autocorrelation Test

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

F-statistic	1.667414	Prob. F(2,35)	0.2034
Obs*R-squared	3.392692	Prob. Chi-Square(2)	0.1834

The test results show that the F-statistic value is 1.6674 with a probability value (Prob. F(2,35)) of 0.2034, and the Obs*R-squared value is 3.3927 with a probability (Prob. Chi-Square(2)) of 0.1834. Both probability values are greater than the 5% significance level (0.05), so it can be concluded that there is no autocorrelation in the model.

3. Heteroscedasticity Test

Heteroskedasticity Test: Glejser
Null hypothesis: Homoskedasticity

F-statistic	0.088766	Prob. F(1,38)	0.7674
Obs*R-squared	0.093220	Prob. Chi-Square(1)	0.7601
Scaled explained SS	0.109472	Prob. Chi-Square(1)	0.7407

Based on the test results, the F-statistic value was obtained at 0.0888 with a probability of 0.7674, the Obs*R-squared value was 0.0932 with a probability of 0.7601, and the Scaled explained SS value was 0.1095 with a probability of 0.7407. All probability values are greater than the 5% significance level (0.05), so the null hypothesis cannot be rejected. It can be concluded that there is no indication of heteroscedasticity in the regression model used.

C. Hypothesis Testing

Dependent Variable: Y
Method: Least Squares
Date: 07/17/25 Time: 13:09
Sample: 1985 2024
Included observations: 40

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	25.51660	3.759149	6.787866	0.0000
X	-3.278669	0.652700	-5.023241	0.0000

R-squared	0.399047	Mean dependent var	8.679000
Adjusted R-squared	0.383233	S.D. dependent var	13.38349
S.E. of regression	10.51066	Akaike info criterion	7.591363
Sum squared resid	4198.008	Schwarz criterion	7.675807
Log likelihood	-149.8273	Hannan-Quinn criter.	7.621895
F-statistic	25.23295	Durbin-Watson stat	1.677410
Prob(F-statistic)	0.000012		

This study uses simple linear regression analysis to determine the effect of inflation as a variable.Xon economic growth as a variable and using annual data for the period 1985–2024 with 40 observations**.** Model estimation is done using the Ordinary Least Squares (OLS) method..

Obtained Regression Equation:

$$Y=25.51660-3.278669\times X$$

Interpretation of Coefficients:

a. The constant (C) of 25.51660 indicates that if the variable X is zero, then the value of Y is estimated to be 25.52.
b. The X coefficient of -3.278669 indicates that every 1 unit increase in inflation will cause a decrease in economic growth of 3.28 units, assuming other variables remain constant.
c. An R-squared value of 0.399 means that approximately 39.9% of the variation in inflation can be explained by economic growth, while the remainder is explained by other variables outside the model.
d. The adjusted R-squared of 0.383 confirms that adjustments to the number of variables in the model still provide a good level of explanation.
e. The probability value (p-value) for inflation (X) is 0.0000, which is less than the 5% significance level (0.05). This indicates that inflation has a statistically significant effect on economic growth.

The results of this study indicate that inflation has a negative and significant effect on economic growth in Indonesia during the 1985–2024 period. This finding is consistent with classical macroeconomic theory, which states that high inflation can create economic uncertainty, reduce people's purchasing power, and disrupt the efficient allocation of resources. This can ultimately hamper economic growth (Mankiw, 2021). The negative coefficient is also consistent with previous studies, such as Fischer (1993), which concluded that uncontrolled inflation negatively impacts long-term economic growth. Furthermore, this relationship also demonstrates the need for prudent monetary policy to control inflation to maintain a stable level. However, the relatively low R-squared value (39.9%) indicates that economic growth is not only influenced by inflation, but also by various other factors such as investment, household consumption, exports, and government fiscal and monetary policies. Other studies have also found similar results, where if inflation increases, economic growth tends to decline. Conversely, when inflation decreases, economic growth tends to increase. (Salfina et al., 2023) When viewed from an Islamic economic perspective, the results of this study indicate that inflation has a negative effect on economic growth in line with sharia principles. High inflation will reduce people's purchasing power and has the potential to cause injustice in income distribution. In Islam, this condition is contrary to the objectives of maqashid sharia, especially in preserving wealth (*hifẓ al-mal*) (Chapra, 2008).

Furthermore, Islamic economics emphasizes the importance of price stability as part of creating economic balance (Chapra, 2000). Uncontrolled inflation is often caused by market distortions such as speculative practices, usury, and hoarding, all of which are prohibited in Islam. Therefore, inflation control from a sharia perspective is not only carried out through monetary policy, but also through strengthening the real sector and equitable distribution of wealth through instruments such as zakat, infaq, and sedekah (Karim, 2010).

CONCLUSION

Inflation has a negative and significant impact on economic growth in West Sumatra**.**Every 1% increase in inflation reduces economic growth by 3.28%, indicating that price stability is a crucial factor in maintaining healthy economic growth. The high R-squared value of 39.9% indicates that inflation contributes significantly to explaining variations in economic growth, although other factors outside the model also influence economic growth. Empirically, the dynamics of inflation and economic growth in West Sumatra show that the relationship between the two is not always linear and unidirectional. From an Islamic economic perspective, inflation stability is not only related to economic aspects, but also to social justice and social welfare. A limitation of this study is that the analysis uses only one independent variable (inflation) without considering other variables that also influence economic growth, such as investment, government spending, unemployment, or the human development index (HDI).

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