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THE IMPACT OF GDP, INVESTMENT, AND INFLATION ON POVERTY IN ASEAN-8 COUNTRIES: A PANEL DATA ANALYSIS (2010–2023)

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ABSTRACT

This study examines the impact of Gross Domestic Product (GDP), investment, and inflation on poverty levels in eight ASEAN countries—Indonesia, Malaysia, the Philippines, Singapore, Thailand, Vietnam, Laos, and Cambodia—from 2010 to 2023. Despite rapid economic expansion in the region, poverty remains a persistent issue. Using panel data regression (Panel Least Squares) with 105 observations, the analysis assesses how these macroeconomic factors contribute to poverty reduction. The results show that the overall regression model is significant (Prob F-statistic = 0.000000), with an R-squared value of 0.3708, indicating that 37% of poverty variation is explained by GDP, investment, and inflation. Investment has the strongest and most significant negative effect on poverty (coefficient = –0.950933; $p < 0.01$), suggesting that higher investment effectively reduces poverty through job creation and productivity gains. GDP has a negative but insignificant effect ($p = 0.0976$), implying that economic growth alone does not automatically lower poverty without equitable distribution. Inflation shows a positive effect (coefficient = 0.747921; $p = 0.0652$), indicating that rising prices tend to worsen poverty by eroding purchasing power. These findings highlight the importance of promoting investment and maintaining price stability in ASEAN poverty-reduction strategies.

Keywords: *Poverty, Economic Growth, ASEAN*

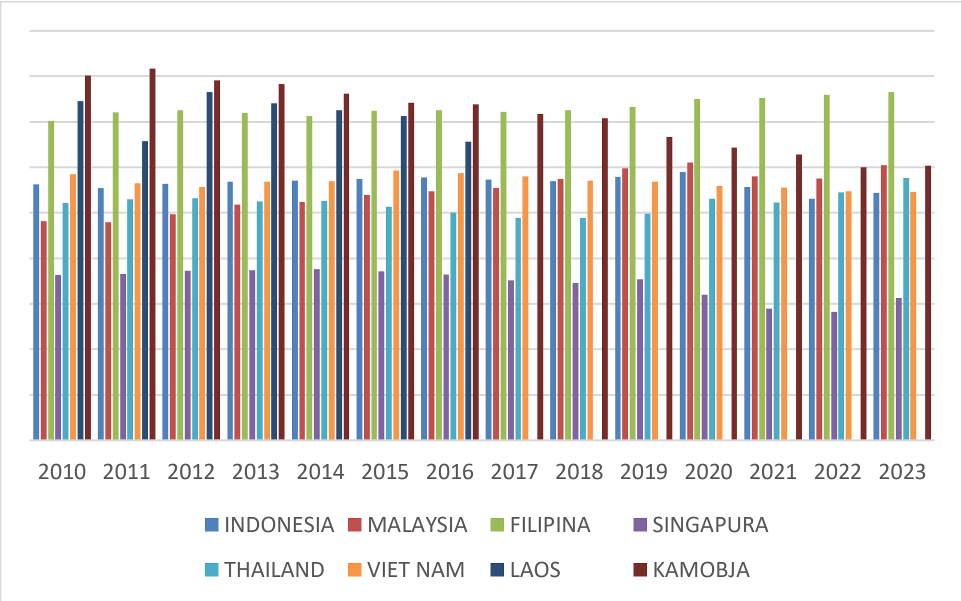
INTRODUCTION

Poverty eradication is a major global focus, and the United Nations has set a poverty eradication goal with the slogan “end poverty in all its forms everywhere,” which demonstrates the seriousness of this issue at the global level. (Zaki, 2023). Poverty is not only an economic problem, but also a source of educational, health, social, and other socio-economic problems, both in national and international discussions. (Maharani et al, 2024). In this case, even though some countries have succeeded in increasing production and national income, poverty remains a dominant problem, especially in developing countries. (Wardhana & Khristiana, 2024).

Poverty is a global issue because of its widespread impact. (Wau, 2022). For developing countries, poverty alleviation is considered one of the main agendas in most of their development plans. Studies on poverty alleviation are very important for developing countries in the Association of Southeast Asian Nations (ASEAN), where poverty rates remain high. Although poverty rates in general have shown a downward trend, unequal income distribution is a challenge that needs to be addressed (Majid et al. 2019).

The purpose of establishing ASEAN is to improve the welfare of the people in Southeast Asia. ASEAN is a geopolitical and economic organization that unites countries in the Southeast Asian region, which was founded on August 8, 1967, in Bangkok, Thailand. The main objectives of ASEAN are to create peace, security, stability, and prosperity in the Southeast Asian region (ASEAN-Indonesia, 2020).

Picture 1. Poverty Data In ASEAN-8



Source: World Bank, 2025

Poverty data in several ASEAN countries shows fluctuations, with different populations in each country in 2022. High poverty rates are found in Myanmar (49.7%), the Philippines (21.6%), and Cambodia (16.6%). Meanwhile, countries with low poverty rates are Indonesia (9.57%), Thailand (6.3%), Malaysia (6.2%), Laos (20.6%), and Vietnam (4.3%). Poverty in Southeast Asian countries is caused by a number of interrelated and complex factors. Income inequality: Unequal distribution of income among social groups causes the majority of the population to live below the poverty line. Economic instability: An unstable economy, including volatile commodity prices and global financial problems, can affect economic growth and create difficult conditions for the poor to improve their welfare (Sekretariat ASEAN, 2023).

Based on the above description, the causes of poverty in Southeast Asian countries tend to be similar, namely obstacles and inequalities in economic growth. This phenomenon also requires in-depth analysis involving other economic growth instruments in order to address poverty appropriately. Extreme poverty is not an unchangeable condition. Poverty occurs mainly because developing countries are trapped in a poverty trap. Factors that influence poverty include economic growth, investment, and inflation.

1. Poverty

   Friedmann (1979) states that poverty is the inability to purchase basic necessities such as food, clothing, shelter, and medicine. Defining and measuring poverty is important because poverty has spatial and temporal dimensions. Various concepts, definitions, and ways of measuring poverty continue to evolve and are subject to debate. Therefore, these concepts must be understood, including what drives them and how to measure and overcome them, because the success of poverty alleviation is largely determined by an understanding of the concept of poverty itself. A person is considered poor or living in poverty if their income or access to goods and services is relatively low compared to the average person in the economy. In absolute terms, a person is considered poor if their income level or standard of living is below the minimum required for a decent life. Poverty is the socioeconomic condition of a person or group of people whose basic rights to maintain and develop a dignified life are not fulfilled (Sachs 2005).
2. Growth Economics

   Economic growth is defined as an increase in the production of goods and services during a certain period, intended for the needs of society, whether goods or services (Amadeo, 2022). In general, economic growth is measured based on an increase in national income (Abidin, 2009), At the same time, Odekon (2015) put forward the idea that economic growth is national income and real per capita income rising over a long period of time. They implied that the increase in national income and per capita income is the most appropriate measure of economic activity, as it is able to reflect a longer-term improvement in living standards Odekon, (2015).

   Conservatively speaking, economic development can be demonstrated by an increase in Gross Domestic Product/GDP (Adi, 2005). It can therefore be seen that the benchmark for economic success is the reduction of income inequality among the population, including between sectors. Therefore, economic activity is essentially a process of using production factors to generate output, which in turn generates returns on the production factors owned by the community (Asbiantari *et al.,* 2016). Thus, it can be seen that the benchmark for success is further referred to the basic concept of modern economic growth, which has been popularized scientifically by American Nobel Prize winner Simon Kuznets, on the grounds that the essence of this progress is reflected in increased production and consumption of goods and services and the economy, with decreasing income inequality among the population in the region and between sectors. Therefore, economic activity is essentially a process of production factors to generate output, which in turn will generate returns on the production factors owned by the community (Poliduts & Kapkaev, 2015).
3. Investment

   Investment in the context of macroeconomics is capital investment that is held for a longer period than usual with the aim of obtaining a surplus in the future (Ysmailov, 2021), dan cenderung meningkatkan pendapatan yang pada akhirnya dapat mendorong investasi yang lebih besar. In addition, according to Laopodis (2020), investment is an important component in influencing economic activity and economic growth in the long term, especially in developing countries (Salahuddin & Islam, 2008). Of course, there are also several important benefits of investment, including freedom, stimulating growth, and the opportunity to increase community income and reduce poverty (Khairani & Masyitah, 2023).

4. Inflation

McConnell et al., (2018) argue that inflation in general is an increase in the prices of goods and services to the public over a certain period of time. When the price of a good increases, public demand for that good also increases, and the stock of goods is limited, resulting in higher prices. Furthermore, inflation can reduce the purchasing power of money for goods and services, which can easily slow economic growth. (Rosnawintang et al., 2021; Syarun, 2016).

LITERATURE REVIEW

Economic Growth

GDP is the main indicator that reflects a country's economic activity. Theoretically, an increase in GDP indicates economic growth that can create more jobs, increase people's income, and reduce poverty rates. According to the trickle-down effect theory, high economic growth will trickle down to all levels of society, including the poor (Todaro & Smith 2012).

However, the literature also shows that the relationship between economic growth and poverty is not always linear. Amar (2020) found in his study that the impact of economic growth on poverty reduction is highly dependent on the income distribution structure. If economic growth is only enjoyed by the rich, then its impact on poverty reduction will be very small. Therefore, the quality of growth is an important factor in overcoming poverty in ASEAN.

Investment

Investment, both from the private and government sectors, is a major driver of economic growth. Investment can increase productivity, create jobs, and encourage growth in productive sectors. Thus, in theory, investment has an indirect impact on poverty alleviation through job creation and increased income (Jhingan, 2012).

Other empirical literature shows that effective investment in strategic sectors such as infrastructure, education, and health tends to have a significant impact on poverty reduction. For example, research by Aghion and Howitt (2009) states that investment in social and physical infrastructure can reduce long-term poverty by improving people's access to basic services.

Inflation

Inflation is a general increase in the prices of goods and services over a certain period of time. High and uncontrolled inflation has a negative impact on people's purchasing power, especially low-income groups, most of whose income is allocated to the consumption of basic necessities. In economic literature, inflation is considered a form of "regressive tax" that proportionally burdens the poor more than the rich (Blanchard & Johnson, 2013).

Research conducted by Easterly and Fischer (2001) shows that high inflation is positively correlated with an increase in poverty. The reason is that inflation causes a decline in real income, especially for those with fixed incomes or who work in the informal sector. In the Indonesian context, historical data shows that spikes in inflation caused by economic crises or subsidy policies (such as increases in fuel prices) are always followed by an increase in poverty, at least in the short term. However, it should be noted that moderate inflation in the context of economic growth can be considered an indicator of increased demand and is not necessarily negative. The crucial thing is how the government manages inflation so that it does not become a driver of sustained poverty.Kemiskinan

The ASEAN region has experienced high economic growth in recent decades, but still faces serious challenges in terms of poverty alleviation. Although ASEAN as a whole has seen a decline in extreme poverty (those living on less than USD 2.15 per day), disparities between countries and between social groups within countries remain significant. Countries such as Singapore and Malaysia have achieved very low poverty rates, while countries such as Laos and Cambodia are still struggling with significant levels of absolute poverty. Therefore, it is important to look at how macroeconomic factors such as GDP, investment, inflation, and unemployment affect poverty, with a focus on the eight ASEAN member countries (Indonesia, Malaysia, the Philippines, Singapore, Thailand, Vietnam, Laos, and Cambodia), which have diverse economic structures and institutions.

GDP growth is generally recognized as a key tool in poverty reduction strategies. However, as explained by Ravallion and Chen (2003), it is not growth itself, but rather its form and distribution that determine its impact on poverty. Investment, both domestic and foreign, plays an important role in capital formation and job creation. However, the impact of investment on poverty is largely determined by the sector, location, and inclusiveness of the investment. In general, literature such as Aghion & Howitt (2009) and Jomo (2015) emphasizes that investment will only reduce poverty if it is directed towards labor-intensive sectors accompanied by policies to redistribute the fruits of development.

Inflation has a negative impact on poverty because it erodes the purchasing power of the poor, whose expenditures are largely allocated to basic needs such as food and energy. In ASEAN, the impact of inflation is highly asymmetric. In general, inflation is regressive and has a greater impact on poor households, making inflation control a key element in poverty reduction strategies.

METHODS

This study aims to analyze the effect of gross domestic product (GDP) per capita, investment, inflation, and poverty rates in eight ASEAN member countries (ASEAN-8), namely Indonesia, Malaysia, the Philippines, Singapore, Thailand, Vietnam, Laos, and Cambodia. These countries were selected based on data availability, representation of various levels of economic development, and the relevance of regional policies in poverty alleviation.

Theoretically, macroeconomic variables such as GDP and investment are expected to have a negative relationship with poverty, as economic growth and capital accumulation can create jobs and increase people's income. Conversely, inflation and unemployment are often associated with increased poverty due to reduced purchasing power and employment opportunities.

To address these issues, this study uses a quantitative approach with a panel data method that combines time and cross-country dimensions. The main model used is a dynamic panel model.

In analyzing the data, the researcher used a Multiple Linear Regression Analysis model with panel data, with the help of Eviews 12 computer software, namely: $Y = a + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4$

Description:

Description:

Y = Poverty

a = Constant

β1 = Regression coefficient X1

β2 = Regression coefficient X2

β3 = Regression coefficient X3

X1 = GDP (Gross Domestic Product)

X2 = Investment

X3 = Inflation

In addition, to obtain the best results in this study, the researcher also conducted classical assumption tests on the data used, including normality tests, multicollinearity tests, heteroscedasticity tests, and autocorrelation tests. Then, to test the hypothesis, the researcher chose to use the coefficient of determination (R Square) test, the T test (partially), and the F test (simultaneously).

RESULT AND DISCUSSION

The test results to identify the best model are presented first in this research discussion. The three models that need to be analyzed are the Random Effects Model, Fixed Effects Model, and Panel Least Square Model.

Chouw Test

Tabel 1. Chouw Test

Effects Test	*Statistic*	*d.f*	*Prob*
Cross-section F	93.443937	(7,74)	0.000
Cross-section Chi-square	217.796458	7	0.000

Table 1 shows the test results using the Chow Test. Based on the test results, the cross-section F probability value is 0.0000. Because the cross-section F probability value is less than alpha 0.05, these results indicate that H0 must be rejected. Therefore, the Fixed Effect Model is the best model selected for the Chow Test.

Hausmen Test

Tabel 2. Hausmen Test

Effects Test	*Chi-Sq. Statistic*	*Chi-Sq d.f.*	*Prob*
Cross-section random	3.405643	3	0.03332

Husman's test results show that the cross-section probability is 0.03332, as shown in Table 2. Given that the cross-section probability is higher than alpha 0.05, this figure indicates that H0 is accepted. Thus, the Random Effect Model is the best model selected based on the Hausman test.

The third test, the Lagrange Multiplier Test, which evaluates the Common Effect and Random Effect, is not necessary because the Common Effect and Fixed Effect models have been eliminated. Thus, the REM is the ideal model to choose, so classical assumption testing is not required. (Wahyuni, 2023).

Hipotesis Tes

1. Adjusted (R2)

   The adjusted R2 value in this study was obtained from the adjusted R-square in Table 3, which was 0.370 or 37%, meaning that the variation in poverty as a dependent variable can be explained by GDP, inflation, and investment by 37%, while the remaining 64% is explained by other factors that were not examined.
2. Parsial Test (t-Test)

   Based on the test results shown in Table 3, the following hypotheses are explained:

   H1: Economic Growth on Poverty

   A negative coefficient of -1.17e-15 indicates a negative relationship between GDP and poverty, but it is not significant at α = 5% (p = 0.0976), so we cannot conclude that GDP directly reduces poverty, meaning that when per capita income increases, poverty tends to decrease. However, the significance is weak. This is consistent with literature such as Ravallion (2012) and ADB (2021) that economic growth is not necessarily inclusive for the poor. Todaro & Smith (2015) state that GDP growth has great potential to reduce poverty if it is inclusive and creates jobs. Ravallion & Chen (2007) found that economic growth consistently reduces poverty in developing countries. In ASEAN, Balisacan & Pernia (2002) found that economic growth must be accompanied by equity to be effective in reducing poverty.

   H2: Investment in poverty

   Investment has a negative and significant effect on poverty. A 1-point increase in the investment-to-GDP ratio will reduce poverty by 0.95 points. This is in line with economic development theory. Ali & Najman (202s0) state that public investment directly contributes to poverty reduction in developing countries. The ADB (2022) in its report on the ASEAN region states that infrastructure projects and labor-intensive investments significantly reduce poverty, especially in Cambodia and Laos.

H3: Inflation on Economic Growth

Inflation has a positive effect on poverty, meaning that when inflation increases, poverty also tends to increase. However, the significance is very small. Easterly & Fischer (2001) show that high inflation harms the poor by reducing purchasing power. The ILO (2022) notes that inflation is a serious threat to the welfare of informal and vulnerable workers. In the context of ASEAN, Fereidouni & Al-Mulali (2014) show that inflation has a stronger impact in countries with large social systems and informal labor markets.

Simultan Test (F Test)

Tabel 3. Hipotesis Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	62.74051	1.916770	32.73243	0.0000
GDP	-1.17E-15	7.00E-16	-1.672024	0.0976
INS	-0.950933	0.130964	-7.261015	0.0000
INF	0.747921	0.401154	1.864421	0.0652
R-squared	0.370877	Mean dependent var		58.0185
Adjusted R-squared	0.429632	S.D dependent var		12.68617
S.E of Regression	90.352190	Sum squared resid		10530.04
F-statistic	19.84694	Durbin-watson stat		0.37484
Prob (F-statistic)	0.00000			

Table 3 shows an F probability value of 0.0000, which is smaller than alpha 0.05, indicating that H0 is accepted. This indicates that simultaneously, the variables tested have a significant effect on the dependent variable. In other words, it can be concluded that GDP, investment, and inflation together have a significant effect on poverty.

CONCLUSION

The findings indicate that GDP growth, investment, and inflation collectively have a significant influence on poverty levels in the eight ASEAN countries analyzed. Although the model explains about 37% of poverty variation, this also suggests that other important factors—such as education, inequality, and social policies—remain outside the model. The results highlight that effective poverty reduction in ASEAN requires strengthening productive and inclusive investment, particularly in sectors that generate broad employment opportunities. Economic growth is still essential, but it must be paired with equitable distribution and inclusive development measures to ensure that its benefits reach lower-income groups. Additionally, maintaining price stability through effective inflation control is crucial to safeguarding the purchasing power of vulnerable populations.

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