

Economic Growth Dynamics in Indonesia: The Interplay of Inflation, Population Growth, and Foreign Direct Investment

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ARTICLE INFO

Keywords: Economic Growth, Inflation, Population Growth, Foreign Direct Investment (FDI)

Received : 04, November

Revised : 24, November

Accepted: 29, December

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ABSTRACT

The objective of this research is to analyze the effects of inflation, population growth, and foreign direct investment (FDI) on Indonesia's economic growth during the period 1993–2023. Annual time-series data obtained from international sources, including the World Development Indicators (World Bank), are analyzed using a multiple linear regression model. The results reveal that FDI has no statistically significant impact on economic growth, reflecting weak integration with domestic industries, limited absorptive capacity, and a strong concentration in extractive sectors. In contrast, population growth exerts a positive and significant influence on economic growth through labor force expansion, increased domestic demand, and capital accumulation. Inflation is found to significantly hinder economic growth by increasing macroeconomic uncertainty, reducing investment, and weakening productivity. These findings emphasize the importance of strengthening domestic linkages to enhance the growth impact of FDI, optimizing the demographic dividend through investments in education and skills, and maintaining price stability via credible monetary policy and effective fiscal-monetary coordination to ensure sustainable long-term economic growth.

INTRODUCTION

Economic growth is a key indicator used to assess the health of a country's economy, especially for developing countries such as Indonesia. Stable and sustainable growth plays an important role in increasing national income, improving people's welfare, and strengthening the economic structure through job creation, infrastructure development, and increased production capacity. However, Indonesia's experience shows that the growth process does not always run smoothly. During the period 1993–2023, Indonesia's economy experienced significant fluctuations, including a sharp contraction due to the Asian Crisis in 1997–1998, a relatively limited recovery in the early 2000s, a slowdown due to the 2008–2009 global financial crisis, and significant pressure caused by the COVID-19 pandemic in 2020. The numerous economic shocks experienced by Indonesia show that its economy is still relatively vulnerable to external shocks and has not yet fully established a stable and sustainable growth pattern in the long term.

As a member of ASEAN, Indonesia has greater economic potential than other ASEAN member countries in terms of natural resource availability, strategic geographical conditions, and population size. With the largest population in the ASEAN region, Indonesia should have an advantage in driving higher economic growth through the certainty and breadth of its domestic market. In addition, the abundance of natural resources makes Indonesia a prime destination for foreign investment, particularly in the form of Foreign Direct Investment (FDI). However, empirically, Indonesia's average economic growth during the 1993–2023 period is still below the average economic growth of ASEAN countries. This condition, as shown in Figure 1, indicates a gap between economic potential and actual growth performance.

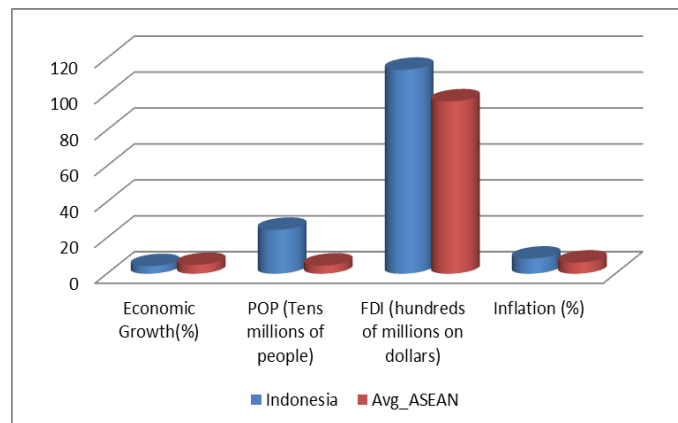


Figure 1. Comparison of Average Economic Growth, Population, FDI, and Inflation between Indonesia and ASEAN (1993-2023)

Source: the World Development Indicators (World Bank, processed data 2025)

Figure 1 shows a comparison of average economic growth, population, FDI, and inflation in Indonesia and the average for ASEAN countries from 1993 to 2023. Based on the data in Figure 1, it can be seen that Indonesia's economic growth is below the average economic growth of ASEAN. Furthermore, when viewed from other macroeconomic indicators, Indonesia has a much higher population and foreign direct investment (FDI) flows than the ASEAN average,

indicating a large domestic market and significant investment potential. However, Indonesia's average economic growth remains lower than the ASEAN average, and inflation is relatively higher than in neighboring countries. This phenomenon indicates inefficiency in the distribution of economic resources and highlights the need for an in-depth analysis of the determinants of Indonesia's economic growth.

In theory, economic growth is influenced by many factors. Based on endogenous growth theory, FDI is one of the main drivers of economic growth through capital accumulation, technology transfer, and integration into the global value chain (Romer, 1990; Lucas, 1988). Countries with large FDI flows have higher growth opportunities. However, based on several previous studies, it was found that the effect of FDI on growth is not automatic, but depends on the strength of the link between foreign companies and domestic industries, technology absorption capacity, and the quality of institutions and financial markets (Alfaro & Chauvin, 2020; Farole & Winkler, 2015; Newman et al., 2015). According to Borensztein et al. (1998), fluctuations in FDI dominated by the extractive sector cause its contribution to growth to be inconsistent.

Furthermore, based on several previous studies, population growth has a non-linear impact. Meanwhile, endogenous growth theory explains that an increase in the productive age population can drive economic growth through human capital accumulation, innovation, and knowledge diffusion (Lucas, 1988; Romer, 1990). An increase in the productive workforce can expand the domestic market, increase the labor supply, and encourage capital accumulation and long-term investment (Mason et al., 2022; Firmansyah, 2025; Tangpatthamachart & Amornkitvikai, 2025). According to Boserup (1965), population pressure actually triggers technological innovation and production intensification, especially in developing countries. However, based on the Solow Model, high population growth has the potential to suppress per capita income through the mechanism of capital dilution if capital accumulation and technological progress cannot keep pace with labor force growth (Solow, 1956). Within the framework of the demographic dividend, population growth can be a source of accelerated economic growth when the increase in the proportion of the productive age group is supported by the quality of human resources, job creation, and effective economic policies (Mason et al., 2022). This demographic bonus can drive investment, domestic markets, and long-term growth (Rodrik, 2019; Diao et al., 2021; Brida et al., 2024; Tangpatthamachart & Amornkitvikai, 2025).

In addition to being influenced by investment and population size, economic growth is also influenced by macroeconomic conditions, such as inflation. Based on Keynesian and monetarist theories, price stability is an important prerequisite for investment and economic growth. High and volatile inflation creates macroeconomic uncertainty, distorts relative prices, and has the potential to suppress long-term investment decisions. In this case, inflation acts as a factor that can weaken the effectiveness of investment and growth potential, especially in developing countries that still face various structural rigidities. Persistent inflation that disrupts economic stability has been shown to

hinder the development of the financial sector, reduce capital accumulation, and hamper productivity, thereby slowing long-term growth in developing countries (Nell, 2023; Dholakia et al., 2021; Ndoricimpa, 2017; Bick, 2010). In addition, inflation also increases price volatility and uncertainty, which encourages economic actors to postpone irreversible investments, thereby reducing long-term growth (Mandeya & Ho, 2022; Fountas, 2010). Another impact is a decline in the efficiency of resource allocation between sectors, which is more detrimental to industry and services than agriculture (Ayyoub & Wörz, 2019).

Although Indonesia has vast resources and economic potential, Indonesia's average economic growth from 1993 to 2023 is lower than the average for ASEAN countries, even though Indonesia has been supported by large inflows of foreign direct investment and a growing population. This mismatch between potential and performance indicates structural and macroeconomic problems that are not yet fully understood, particularly regarding the effectiveness of FDI, population growth dynamics, and inflation stability in driving economic growth. Therefore, this research is important to systematically analyse the influence of FDI, population growth, and inflation on Indonesia's economic growth, as a basis for formulating more effective, adaptive, and long-term sustainable growth oriented policies.

THEORETICAL REVIEW

In economic growth theory, a country's growth rate is not solely determined by the accumulation of physical capital, but is also influenced by macroeconomic stability, population dynamics, and the quality and nature of incoming investment. Empirical literature shows that the relationship between these factors is complex and highly dependent on the conditions of developing countries, which are still characterized by a dualistic economic structure and uneven levels of institutional depth.

Various studies confirm that the relationship between foreign direct investment (FDI) and economic growth is neither automatic nor linear. In many developing countries, FDI tends to operate in the form of enclave investments that are highly dependent on imported inputs, foreign technology, and global value chain networks, thereby creating significant economic leakage and relatively weak domestic linkages (Farole & Winkler, 2015; Newman et al., 2015; Jude & Levieuge, 2015; Alfaro & Chauvin, 2020). Therefore, the impact of FDI on economic growth is highly conditional and depends on the structural characteristics of the recipient country, particularly in economies with strong segmentation between the modern and traditional sectors (Iamsiraroj & Ulubaşoğlu, 2015; Pegkas & Tsamadias, 2016; Adams & Opoku, 2015; Agbloyor et al., 2016; Nguyen et al., 2021; Ozili, 2024; Makanda & Fasanya, 2025).

The effectiveness of FDI is largely determined by the level of development of the domestic financial system. Countries with shallow and inefficient financial systems tend to be unable to direct foreign capital flows to high-productivity sectors, thereby weakening the contribution of FDI to long-term growth (Omri & Kahouli, 2014; Desbordes & Wei, 2017). Furthermore, the

sectoral composition of FDI is a crucial factor, where investments concentrated in extractive and capital-intensive sectors generally have low labor elasticity and limited impact on domestic income and consumption, compared to FDI in manufacturing and technology sectors that have stronger production linkages (Asiedu & Lien, 2011; Nguyen & Lee, 2021; Haini et al., 2024).

Furthermore, based on the theoretical Solow growth model, FDI essentially drives output growth in the short term through increased capital accumulation. However, without endogenous technological progress and productivity gains, additional foreign capital will face diminishing returns. A number of empirical studies show that in many developing countries, FDI does increase capital stock, but it is unable to drive long-term growth due to weak industrial value added growth and limited downstreaming (Madsen et al., 2010; Morales & Moreno, 2020; Ozili, 2024; Yang et al., 2025). In addition, FDI flows tend to be procyclical and sensitive to global uncertainty, making their contribution to economic growth unstable (Aizenman et al., 2011; Baker et al., 2022). Under these conditions, FDI plays more of a role as a source of temporary financing than as a driver of long-term structural transformation.

Apart from investment, demographic dynamics are also an important determinant of economic growth in developing countries. Various studies show that population growth and labor force expansion can drive output growth through increased labor supply, expanded domestic demand, and enlarged market size, especially in relatively labor-intensive economies (Aiyar & Mody, 2013; Cruz & Ahmed, 2018; Rodrik, 2019; Diao et al., 2021; Brida et al., 2024; Yaqoob et al., 2024; Ochi & Saidi, 2024; Tangpatthamachart & Amornkitvikai, 2025). This impact becomes even more significant when a country enters a demographic bonus phase, marked by an increase in the proportion of the productive-age population.

In endogenous growth theory, population growth has the potential to strengthen long-term growth through the expansion of markets for innovation and investment, as long as it is accompanied by improvements in human capital (Agénor & Canuto, 2015; Cervellati & Sunde, 2020; Mason et al., 2022). Empirical evidence shows that countries that have successfully capitalized on their demographic dividend generally experience increases in savings, investment, and labor productivity, especially in developing countries and Asian regions with relatively flexible labor markets (Lee & Shin, 2019; Ogawa et al., 2021; Mason et al., 2022). However, without adequate investment in education, health, and skills, population growth has the potential to weaken long-term growth prospects.

In addition to investment and demographics, macroeconomic stability particularly inflation plays an important role in determining economic growth performance. Theoretical and empirical literature shows that high and unstable inflation creates relative price distortions, increases economic uncertainty, and discourages productive investment decisions, which ultimately hinders capital accumulation and output growth (Barro, 1995). Cross-country evidence consistently confirms a negative relationship between inflation and long-term growth, especially in developing and middle-income countries (Easterly &

Bruno, 1995; Ghosh & Phillips, 1998; Sarel, 1996; Hodge, 2006; López-Villavicencio & Mignon, 2011).

METHODOLOGY

This study uses a quantitative approach with econometric methods to analyze the effect of inflation, population growth, and foreign direct investment on economic growth in Indonesia. The empirical model is estimated by multiple linear regression based on annual time series data for the period 1993-2023. Furthermore, the research data is obtained from various international sources including the World Development Indicators (World Bank). The empirical model used is formulated as follows:

$$EG_t = \alpha + \beta_1 INF_t + \beta_2 POP_Gr_t + \beta_3 FDI_t + \varepsilon_t$$

Where EG is Economic Growth in period t, INF is inflation in period t, POP_Gr is population in period t, then FDI is foreign direct investment (USD), α is a constant that describes the influence of fixed factors outside the independent variables, while $\beta_1, \beta_2, \beta_3$ are the magnitude of the influence of inflation, pertumbuhan penduduk, foreign direct investment on variations in economic growth, t is the time period (1993-2023), and ε_t is an error term that captures the influence of other variables not included in the model.

Furthermore, to ensure the reliability of the estimation results, classical assumption tests are conducted thoroughly in accordance with econometric rules Gujarati & Porter (2009) and Wooldridge (2016). The classical assumption tests used in this study consist of normality tests, autocorrelation tests, heteroscedasticity tests, and multicollinearity tests. Furthermore, statistical tests are conducted, consisting of the coefficient of determination test, simultaneous test (F-test), and partial test (t-test)

RESULTS

The normality test confirms that the dataset used in this study is normally distributed.

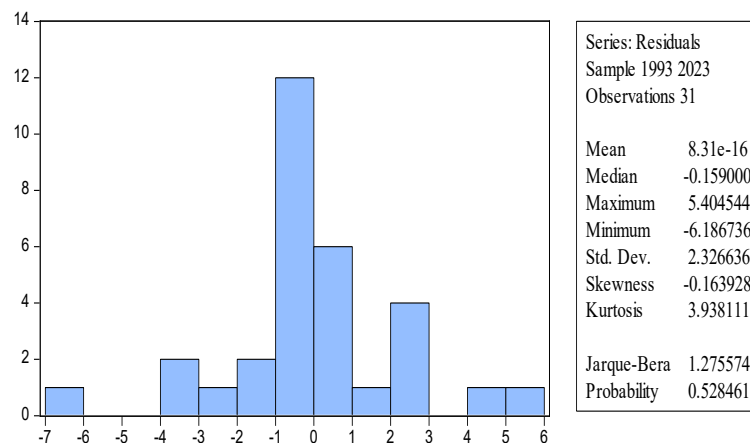


Figure 2. Normality Test Results
Source: Processed research data (2025)

Normally distributed. as indicated by a Jarque-Bera probability of 0.528461, exceeding the 5% significance threshold ($\alpha = 0.05$). These results, presented in Figure 2, validate the suitability of the data for regression analysis.

Furthermore, the autocorrelation test results show a Chi-Square probability value of 0.6208 which is greater than the 5% significance level ($\alpha = 0.05$). This indicates that the regression model does not experience autocorrelation problems. Details of the results are presented in Table 1.

Table 1. Autocorrelation Test Results

<i>Breusch-Godfrey Serial Correlation LM Test</i>			
F-statistic	0.396694	Prob. F(2,25)	0.6767
Obs*R-squared	0.953540	Prob. Chi-Square(2)	0.6208

Source: Research data (Processed 2025)

The regression model was also tested to ascertain the presence or absence of heteroscedasticity. The test results show no indication of heteroscedasticity, as indicated by the Chi-Square probability value on Obs*R-squared of 0.6208. A summary of the heteroscedasticity test results can be seen in Table 2.

Table 2. Heteroskedasticity Test Results

<i>Heteroskedasticity Test: Breusch-Pagan-Godfrey:</i>			
F-statistic	1.832595	Prob. F(2,27)	0.1651
Obs*R-squared	5.244399	Prob. Chi-Square(2)	0.1548

Source: Research data (Processed 2025)

Finally, a multicollinearity test was conducted to assess the relationship between independent variables. The results of these tests are presented in Table 3.

Table 3. Multicollinearity Test Results

Variable	INF	POP_Gr	FDI
INF	1	0.42	0.40
POP_Gr	0.43	1	0.82
FDI	-0.04	0.82	1

Source : Research data (Processed, 2025)

Furthermore, the regression results of this study can be seen in Table 4, providing insights into the partial and simultaneous effects of inflation, population growth, and foreign direct in Indonesia during 1993–2023.

Table 4. Multiple Linear Regression Results

<i>Var.</i>	<i>Coeff.</i>	<i>S.E</i>	<i>t-Stat.</i>	<i>Prob.</i>
C	-0.603817	2.848504	-0.211977	0.8337
INF	-0.705427	0.051921	-13.58659	0.0000
POP_Gr	6.729796	1.974158	3.408944	0.0021
FDI	-0.000185	0.000401	-0.460773	0.6487

R²: 0.884694

Adj.R²: 0.871882

F-statistic : 69.05324

Prob (F-Statistic) : 0.000000

Source : Research Data (processed, 2025)

Based on the test results in Table 4, the regression equation is obtained as follows:

$$EG_t = -0.603817 - 0.705427INF_t + 6.729796POP_Gr_t - 0.000185FDI_t + \varepsilon_t$$

Hypothesis Test

Based on the regression results in Table 4, the coefficient of determination (R²) value is 0.8847. This indicates that approximately 88.47 percent of economic growth variation can be explained by the variables of inflation, population growth, and Foreign Direct Investment. Furthermore, an F-statistic value of 69.053 with a probability of 0.0000 was obtained, indicating that inflation, population growth, and FDI simultaneously have a significant effect on economic growth. The results of this study indicate that the model used in this study is feasible and relevant to explain the determining factors of economic growth. Then, based on the t-test results, the inflation variable has a negative coefficient of -0.7054, with a t-statistic value of -13.587 and a probability of 0.0000. These results indicate that inflation has a negative and significant effect on economic growth. Meanwhile, the population growth variable shows a positive coefficient of 6.7298, with a t-statistic value of 3.409 and a probability of 0.0021. This result shows that population growth has a positive and significant effect on economic growth. Meanwhile, Foreign Direct Investment has a negative coefficient of -0.000185, and is not statistically significant, with a t-statistic value of -0.461 and a probability of 0.6487. This result shows that FDI has not had a significant effect on Indonesia's economic growth.

DISCUSSION

Based on the regression results, the Foreign Direct Investment variable has a coefficient of -0.000185 with a t-statistic value of -0.461 and a probability of 0.6487, indicating that FDI does not have a statistically significant effect on Indonesia's economic growth during the 1993–2023 period. These findings indicate that an increase in FDI flows does not automatically boost economic growth. This is due to the weak multiplier effect of foreign investment in

Indonesia. Several previous studies have shown that when FDI does not form backward and forward linkages with domestic industries, its impact on aggregate economic growth is minimal. According to Alfaro & Chauvin (2020); Farole & Winkler (2015), Newman et al. (2015), Jude & Leveuge (2015), FDI tends to operate as enclave investment, with high dependence on imported inputs, foreign technology, and global supply chains, resulting in significant economic leakages. The results are in line with previous research findings that show that the relationship between FDI and economic growth is conditional and non-linear, especially in developing countries with a dualistic economic structure (Makanda & Fasanya, 2025); (Ozili, 2024); (Iamsiraroj & Ulubaşoğlu, 2015); (Septriani, 2024); (Nguyen et al., 2021); (Pegkas & Tsamadias, 2016); (Adams & Opoku, 2015); (Agbloyor et al., 2016).

Several previous studies have also shown that FDI only has a significant impact on economic growth if the recipient country has adequate absorption capacity, including quality education, innovation, and economic institutions. As shown in the results of research conducted by Yang (2024); Li & Tanna (2019); Liu (2024); Xie & Wang (2022); Hanousek et al. (2011); Pegkas & Tsamadias (2016), without sufficient human capital and technological infrastructure, technology transfer from FDI does not occur effectively, thereby limiting its contribution to total factor productivity.

In addition, the effectiveness of FDI is also largely determined by the depth and efficiency of the domestic financial market. Countries with shallow financial systems tend to fail to channel FDI to high-productivity sectors. Although Indonesia has experienced improvements since the reform era, limited access to financing, credit market segmentation, and weak manufacturing industry financing have prevented FDI from being converted into sustainable economic growth (Desbordes & Wei, 2017); (Omri & Kahouli, 2014). Furthermore, FDI that is concentrated only in capital-intensive and natural resource-based sectors contributes less to growth than FDI in the manufacturing and technology sectors. According to Haini et al. (2024); Nguyen & Lee (2021); Asiedu & Lien (2011), the extractive sector generally has high capital intensity but low employment elasticity, so its impact on domestic income and consumption growth is limited.

Furthermore, based on the Solow growth model, FDI only has a temporary impact on output growth. If it is not accompanied by technological innovation and endogenous productivity improvements, additional foreign capital will face diminishing returns. As shown by research findings, in many developing countries, Ozili (2024); Yang et al. (2025); Madsen et al. (2010); Morales & Moreno (2020) which also found that FDI increases capital stock, but fails to drive long-run growth as a result of weak industrial upgrading and downstreaming. In addition, FDI in developing countries is procyclical and sensitive to global uncertainty, making its contribution to growth unstable (Baker et al., 2022); (Aizenman et al., 2011). In this case, FDI functions more as a source of temporary financing than as a driver of structural growth.

Therefore, the insignificant impact of FDI on Indonesia's economic growth during the 1993–2023 period shows that the quantity of FDI alone is not enough

to drive economic growth. There needs to be an FDI policy that emphasizes industrial downstreaming, technology transfer, strengthening the domestic supply chain, and creating productive jobs (Doytch et al., 2024); (Alfaro & Chen, 2012).

Furthermore, based on the regression results, the coefficient value of the population growth variable was 6.7298, with a t-statistic value of 3.409 and a probability of 0.0021, which means it is significant at a 99 percent confidence level. These results indicate that population growth has a positive and significant effect on Indonesia's economic growth during the period 1993-2023. This means that every one percent increase in population growth will increase economic growth by around 6.73 percent, assuming other variables remain constant. The positive effect of population growth on Indonesia's economic growth is due to the structural characteristics of the Indonesian economy, which is still relatively labor intensive, particularly in the light manufacturing, agriculture, trade, and service sectors. With this economic structure, an increase in the number of workers can be directly absorbed by the labor market and contribute to increased output. Several studies show that countries with labor-intensive economic structures tend to benefit more from labor expansion than countries that are highly capital intensive (Rodrik, 2019; Diao et al., 2021).

The results of this study are in line with the literature that shows the role of demographics as a major factor in economic output expansion in developing countries through a larger labor supply and increased domestic demand (Brida et al., 2024; Tangpatthamachart & Amornkitvikai, 2025; Yaqoob et al., 2024; Ochi & Saidi, 2024; Amalia & Prasetyo, 2025; Aiyar & Mody, 2013; Cruz & Ahmed, 2018; Fent et al., 2008).

Theoretically, the positive effect of population growth on economic growth can be explained through the market size effect and labor force expansion. High population growth will increase the proportion of the productive labor force, expand the consumption base, and drive demand for domestic goods and services, which creates incentives for the expansion of the industrial and service sectors. Based on the new growth theory, an increase in population can enlarge the market for innovation and long-term investment, especially if supported by a workforce with improved skills (Firmansyah, 2025); Tangpatthamachart & Amornkitvikai, 2025; Ochi & Saidi, 2024; Brida et al., 2024; Firmansyah, 2025). The demographic bonus phenomenon also expands the potential for national savings and labor supply, which can ultimately accelerate national capital accumulation and drive economic growth.

Several previous studies have found that countries with a demographic bonus phase and a majority of the population in the productive age group will experience accelerated investment and human capital accumulation. According to the results of a study conducted by Tangpatthamachart & Amornkitvikai (2025); Firmansyah (2025); Brida et al. (2024), Yaqoob et al. (2024), Ochi & Saidi (2024), that demographic structure has a significant effect on long-term growth paths, particularly in developing countries with relatively flexible labor markets. In Indonesia, since the 1990s, the demographic bonus has also increased the number of productive workers, ultimately strengthening the

positive influence of population growth on national economic output. This is due to the expansion of the labor force and domestic market. An increase in the number of people of productive age increases the labor supply, lowers unit production costs, and encourages output expansion in various sectors. Meanwhile, from the demand side, population growth increases household consumption, thereby strengthening aggregate demand and encouraging investment. In middle-income countries, the impact of a large population has been the main driver of medium-term economic growth, especially when the domestic market plays a dominant role (Bairoliya & Miller, 2021); (d'Albis et al., 2021); Septriani, 2024; Anders et al., 2023).

The results of this study are in line with endogenous growth theory, which emphasizes that economic growth is influenced by labor, human capital, and market size, in addition to physical capital accumulation. When population growth is accompanied by investment in education and health, population growth serves as a productive input that strengthens long-term growth. The results of this study are in line with those conducted by Mason et al. (2022); (Cervellati & Sunde, 2020); (Agénor & Canuto, 2015), which show that labor quality is a key factor in transforming population growth into a source of sustainable economic growth.

During the period 1993-2023, the productive age population in Indonesia was relatively large compared to the non-productive age population. Therefore, the increasing number of people of productive age will increase the chances of economic acceleration in Indonesia (Septriani, 2024). According to (Mason et al., 2022); (Lee & Shin, 2019); (Septriani, 2024); (Ogawa et al., 2021), The demographic bonus contributes significantly to increased national savings, investment, and labor productivity, especially in Asian and developing countries.

Based on the Solow growth model, population growth has the potential to suppress per capita income through the capital dilution effect if it is not offset by capital accumulation. However, in aggregate economic growth, an increase in the labor force still contributes positively to an increase in national output. The results of this study indicate that during the 1993-2023 period, the positive effects of labor force expansion in Indonesia were more dominant than the potential decline in capital per worker. As in the study conducted by (Acemoglu & Restrepo, 2019) which shows that in developing countries with dynamic economic structures, labor force growth remains an important determinant of output growth.

The results of this study indicate that during the period 1993-2023, population growth was an economic asset for Indonesia, especially when supported by policies that were able to improve the quality of human resources and create productive jobs. This is because without improvements in the quality of human resources, in terms of education, health, and skills, the impact of population growth has the potential to weaken in the long term. Optimizing the demographic bonus requires structural reforms in education, the labor market, and high value-added industrialization so that the contribution of

demographics to economic growth is sustainable (Acemoglu & Restrepo, 2019; Rodrik, 2019; Agénor & Canuto, 2015).

Furthermore, based on the regression results, the inflation variable coefficient value obtained was -0.7054 with a t-statistic value of -13.587 and a probability of 0.0000. This means that every 1 percent increase in inflation correlates with a decline in economic growth of around 0.71 percent, assuming other variables remain constant. In theory, high and unstable inflation can create relative price distortions and economic uncertainty that are detrimental to productive investment decisions. In this case, inflation that exceeds a certain threshold begins to reduce savings and the accumulation of physical and human capital, which will ultimately reduce productivity and overall economic growth. According to Barro (1995), long-term inflation increases have an impact on reducing investment and real output growth, mainly through weakening capital accumulation.

The results of this study are in line with previous studies showing that high inflation tends to hamper economic growth, especially in developing and middle-income countries. Several studies show that persistent inflation above moderate levels has a strong negative correlation with long-term economic growth (Barro, 1995; (Nguyen & Lee, 2021); (Chairani & Septriani, 2023); (Rini & Septriani, 2023); (Omay & Öznur Kan, 2010). Furthermore, from the perspective of aggregate demand, rising inflation causes the prices of goods and services to rise faster than real income, thereby weakening purchasing power and suppressing household consumption, which is a major component of GDP. In the short term, this weakening of consumption reduces investment incentives and slows output expansion.

In addition, inflation also affects economic growth through increased macroeconomic uncertainty, which suppresses private investment. This can lead to increased capital costs and delay long-term investment decisions, thereby hampering capital accumulation and output growth. Empirical evidence shows a negative relationship between inflation and growth, particularly in developing countries (Omay & Öznur Kan, 2010; Nguyen & Lee, 2021). The negative impact of inflation reflects the structural characteristics of the Indonesian economy, which remains sensitive to price fluctuations, particularly in the food, energy, and basic necessities sectors. Countries with economic structures that are still dominated by domestic consumption and the informal sector tend to be more vulnerable to the negative impact of inflation on economic growth (Iyke & Ho, 2019).

The results of this study are in line with several studies conducted by Easterly & Bruno (1995); Ghosh & Phillips (1998); Sarel (1996); López-Villavicencio & Mignon (2011); Barro (1995); López-Villavicencio & Mignon (2011); Hodge (2006), who found that higher inflation is consistently associated with lower long-term growth and weaker capital accumulation. This relationship is highly nonlinear: inflation below low single digits often shows weak or ambiguous effects, but above about 8–10 percent in many developing countries and even lower in developed countries, the impact becomes strongly negative (Sarel, 1996; Espinoza et al., 2012; Fei et al., 2019). Furthermore,

monetary instability reduces the elasticity of substitution between capital and labor, so that even moderate inflation can reduce output and long-run equilibrium growth.

According to (Hodge, 2006; Nell, 2023; Nkume, 2014), who conducted research in South Africa and Malawi, high inflation damages financial intermediation, suppresses investment, and hinders growth, with a clear inflation threshold. Cross-country evidence confirms that inflation volatility exerts additional pressure on growth beyond the effects of average inflation rates (Apergis, 2005; Fountas, 2010). Further country-specific studies show that inflation not only increases uncertainty itself, but that uncertainty significantly reduces output, particularly through the investment and productivity channels (Boujelbène & Jedidia, 2025; Dewi & Septriani, 2023; Mandeya & Ho, 2022, 2023; Iyke & Ho, 2018).

In this regard, persistent inflation in developing economies has been shown to undermine financial development, capital accumulation, and productivity, thereby suppressing long-term growth (Bick, 2010; Ndoricimpa, 2017; Dholakia et al., 2021; Nell et al., 2023; Ayyoub & Wörz, 2019). The results of this study prove that inflation is one of the main factors hindering Indonesia's economic growth during 1993-2023. Therefore, price stability through credible monetary policy, strong fiscal and monetary coordination, and strengthening the supply side are key prerequisites for Indonesia's sustainable economic growth.

CONCLUSIONS AND RECOMMENDATIONS

Based on the regression results, population growth has a positive and significant effect on economic growth, reflecting the expansion of the labor force, domestic market, and capital accumulation, particularly when supported by improvements in human capital. Inflation, on the other hand, negatively affects economic growth by increasing uncertainty, discouraging investment, and reducing capital accumulation and productivity. In contrast, foreign direct investment does not have a significant impact on Indonesia's economic growth during 1993-2023. This indicates that increases in Foreign Direct Investment alone are insufficient to drive growth due to weak integration with domestic industries, limited absorptive capacity, and concentration in extractive sectors. These findings highlight the complex interaction between Foreign Direct Investment, demographics, and inflation in shaping Indonesia's economic performance. The results suggest the need for policies that promote productive Foreign Direct Investment integration and industrial upgrading, maximize the demographic dividend through investment in education and skills, and maintain price stability through credible fiscal and monetary coordination to support sustainable and inclusive long term growth.

FURTHER STUDY

Although this study successfully identified the effects of inflation, population growth, and foreign direct investment (FDI) on Indonesia's economic growth during the period 1993-2023, the results need to be interpreted with consideration of a number of methodological and data

limitations. The use of ordinary least squares (OLS) regression captures long-term average relationships, but does not fully reflect structural dynamics, potential two-way causality, and the possibility of non-linear responses of the economy to macroeconomic shocks. Furthermore, the use of aggregate variables, particularly FDI, does not distinguish between sectoral characteristics and investment quality, while a national approach tends to obscure regional heterogeneity. Therefore, further research is recommended to include exogenous variables and use more advanced econometric approaches, such as ARDL, VECM, or nonlinear models, to analyse short-term and long-term relationships simultaneously, test causality, and identify threshold effects and asymmetries, thereby producing more appropriate, contextual, and economically coherent policy recommendations.

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