Navigating Economic Growth: The Roles of AI Readiness, Trade Openness, Inflation, and Unemployment in ASEAN-7

Wulan Kurniasari[1], Adi Rahmansyah[2], Gharas Umara[3], Beta Mustika Wati[4]

{wulankurniasari55@gmail.com[1], adirahmansyah05@gmail.com[2], gharasumara@gmail.com[3], betamustika28820@gmail.com[4]}

Economic Department, Universitas Lampung, Lampung, Indonesia[1234]

Abstract. Extensive research has explored the factors affecting economic growth, often with mixed and unclear results. These differences might arise from varying country characteristics, rapid technological changes, and the effects of globalization. This study looks at what influences economic growth in seven ASEAN countries using panel data analysis. This research is crucial for enabling governments to make informed decisions to boost economic growth and development in their countries.The Fixed Effect Model was chosen for this analysis. The results show that the AI Government Readiness Index and inflation both have a positive and significant impact on economic growth. On the other hand, trade openness and unemployment negatively affect economic growth in these countries

Keywords: Economic Growth. AI, Trade Openess, Inflation, Unemployment

1 Introduction

In recent decades, extensive research on economic growth has been conducted across various countries, highlighting its critical role in developed and developing countries. The main focus of the discussion generally aims to answer why some countries grow much faster than other countries. This inquiry has driven investigations into the unique characteristics and determinants closely linked to economic growth, aiming to identify key factors associated with differential growth trajectories among countries [1], [2], [3], [4].

Economic growth is a critical indicator of a country's economic performance and development. It is typically observed through year-over-year increases in the production of goods and services [5]**.** The higher economic growth increases the potential for community welfare through the creation of new jobs, higher incomes, and better access to goods and services. Various literatures have emphasized the relationship of economic growth to welfare [6], [7], [8], [9]. Increased production as a result of economic growth will have a direct and indirect positive impact on society through the creation of labor force and opportunities for local and foreign entrepreneurs to invest [10]. This growth not only boosts individual income but also expands access to education, healthcare, and infrastructure, which are essential components for improving quality of life. Consequently, economic growth plays a pivotal role in enhancing societal welfare and is a foundational element in achieving sustainable development.

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Every country experiences changes in the economy every year due to economic activity. The achievment of a country in economic activity can be seen from the amount of national income. However, the advantages of economic growth are not always equally distributed among all citizens [11]. Indicators used to measure a country's economic growth include the Gross Domestic Product (GDP). Currently, nearly all countries aim to enhace economic growth by expanding output, supported by investments in capital goods, technology, and human resources. Despite these efforts, the pace and scale of economic growth vary significantly across different global regions.

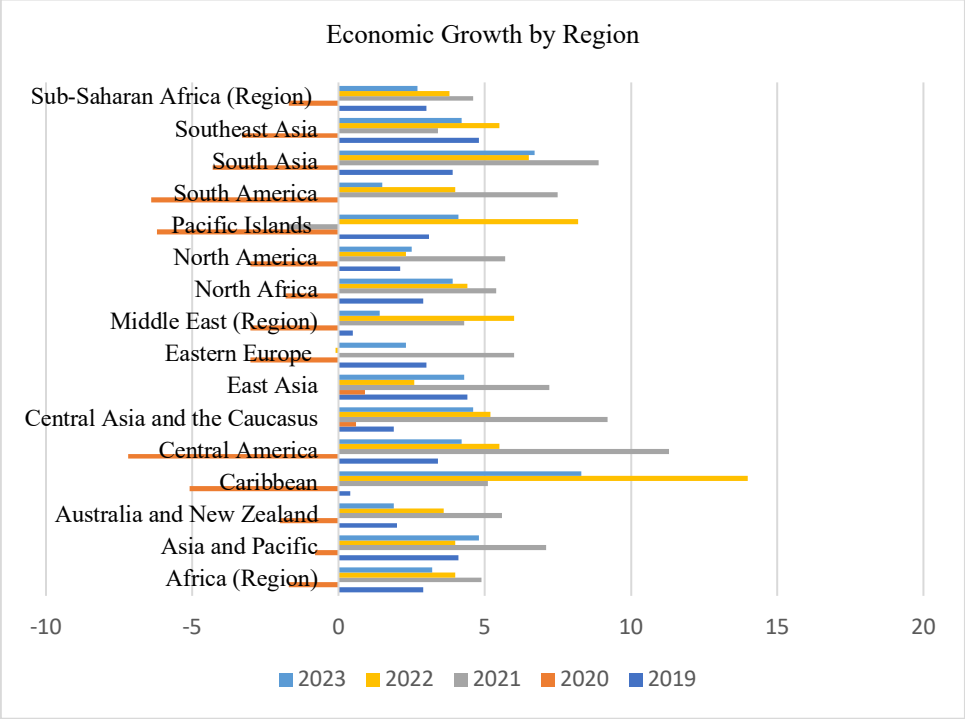

Fig 1. Economic Growth by Region

Figure 1 illustrates economic growth in various regions based on data from the International Monetary Fund. The regions with the highest average growth rates include the Caribbean, South Asia, Central Asia, and East Asia, whereas the Pacific Islands exhibit the lowest average growth. ASEAN stands out as a region with relatively stable growth and promising economic prospects, particularly in the context of the COVID-19 pandemic. ASEAN's economic potential is supported by natural and human resources. In 2021, ASEAN accounted for 8.4 percent of the world's population, with the majority being under 30 years old. In recent years, the economic growth of ASEAN countries has also been commendable. The countries in ASEAN that achieved notable growth in 2023 include Indonesia (5.04%), Cambodia (5.4%), and the Philippines (5.5%).

Economic growth in ASEAN countries is influenced by macroeconomic factors such as inflation, investment, natural resources, human resources, and technology. Extensive research has been conducted on the factors affecting economic growth in ASEAN, both theoretically and empirically. For example research by [12] analyzed the determinants of economic growth in

four ASEAN countries from 1981 to 2008. The results indicated that Foreign Direct Investment (FDI), trade openness, and gross fixed capital formation positively and significantly contribute to growth. However, in country-specific analyses, FDI showed no significant effect for these countries individually; gross fixed capital formation consistently had a positive impact across all country, while trade openness was only significant for Indonesia. Research on the ASEAN region by [13] found that an increase in inflation, investment and labor force participation can boost economic growth. Additionally, the depreciation of domestic currencies against the US dollar acted as a corrective measure for ASEAN economies during 2000–2020. Another study by [14] on the same region reported that inflation and labor force participation rates positively and significantly impact economic growth, while population growth and unemployment variables exert a negative insignificant on growth.

Then, using panel data for four countries in Southeast Asia [15] shows interest rate policy negatively affects economic growth, while expansive monetary policy positively effect on economic growth and international trade is not driving economic growth. Research by [16], examining variables such as inflation, consumption expenditure, capital formation, foreign direct investment, and trade openness, shows that all variables, except inflation, positively impact economic growth. However, inflation showed a negative direction and had a significant effect on the gross domestic product so that if there is increased inflation it will reduce gross domestic product.

Referring to various theories and empirical research, this study examines the impact of the AI government index, trade openness, inflation, and unemployment on economic growth in seven ASEAN countries. Understanding the multifaceted factors influencing economic growth is essential for fostering inclusive and sustainable development. The results of this research are expected to provide valuable insights for policymakers and stakeholders in formulating strategies to enhance economic growth across ASEAN member.

2 Literature Review

2.1 Economic Growth

Economic growth is defined as an increase in national income, usually measured by an increase in GDP. Gross Domestic Product (GDP) at purchaser's prices represents the total gross value added by all resident producers in an economy, including any product taxes and excluding any subsidies not included in the product value. This calculation does not account for depreciation of manufactured assets or the depletion and degradation of natural resources. The data is presented in constant 2015 prices, expressed in U.S. dollars [17]. GDP values are converted from local currencies using the official exchange rates of 2015. Meanwhile, Kuznets conceptualizes economic growth as a long-term increase in a country's capacity to supply its population with a variety of economic goods. This capacity expansion is achieved through technological advancements, institutional improvements, and the effective utilization of resources[18]. Several key theories identify primary drivers of economic growth:

Classical Growth Theory**.** This theory was developed by Adam Smith, David Ricardo, and Malthus [19], [20], [21]. According to this theory, economic growth is influenced by four main factors: population, the amount of capital goods, land area and natural wealth, as well as the

technology used. A core concept within this theory is the relationship between per capita income and population, often referred to as the "optimal population" theory. Initially, population growth enhances per capita income as labor contributes to higher productivity. However, as population continues to grow, the law of diminishing returns sets in, reducing marginal productivity. Eventually, per capita income stabilizes at a level equal to marginal production, limiting further growth under unchanged conditions.

Neo Classical Growth Theory. Neo Classical theory emerged since the 1950s and continues to develop based onclassical economic analysis. Economists such as Robert Solow, Edmund Phelps, and Harry Johnson became a pioneer in developing this theory. According to the Neo-Classical framework, an economy naturally progresses toward full employment and the optimal utilization of capital over time. Technological innovation is emphasized as a critical factor for sustained growth, as it enhances productivity beyond the limits set by diminishing returns on capital and labor. This theory highlights the importance of exogenous technological progress in maintaining long-term economic expansion [22].

Harrod-Domar Growth Theory. This theory is a direct development John Maynard Keynes. According to this theory, a portion of national income must be allocated to investment for either expanding or replacing capital goods. Economic growth is primarily driven by new investments, which contribute to the net increase in capital stock. The theory highlights the importance of the savings rate and the efficiency of capital utilization (measured by the capital-output ratio) as key determinants of growth [23], [24]. A higher savings rate provides resources for investment, while an efficient use of capital ensures these investments translate into productive economic outputs. This model emphasizes the critical balance between savings, investment, and output growth to sustain economic expansion.

2.2 AI Goverment Readines Index

The development of new technology paves the way for capital accumulation and the production of goods [25]. Endogenous growth forms the basis of much of the literature on technology and economic growth. Solow explains that technology is one of the factors influencing economic growth. Technological advancements periodically affect changes in output [26]. Technological growth enhances output per labor unit, often measured as capital per effective labor unit. According to endogenous economic theory by [27] the flow of technology can drive investment, thereby increasing capital. In addition to investment, technological progress facilitates cultural exchange, particularly in education, as leveraging advanced technology requires a highly skilled workforce. This ensures that technology is utilized effectively and efficiently in production processes. Additionally, technological development contributes to the accumulation of knowledge, which not only boosts productivity but also creates new opportunities for sustained economic growth.

In line with the previous theory [28] introduced an economic growth model by adopting technological innovations that reduce labor input but require more capital. This theoretical work helps explain the relationship between modern technology and economic growth. In recent years, economists have delved deeper into the transformative potential of artificial intelligence (AI). Research by [21] demonstrated a positive and significant impact of AI patenting on economic performance over time. The effects of AI have become increasingly pronounced in recent periods, driven by the rising quantity and quality of AI innovations. Advances in AI

technology have revolutionized production processes, reduced inefficiencies, and enhanced consumer experiences. Using panel data from 2008 to 2017 [29] examined AI's role in China and found that its implementation, alongside environmental protection measures, has spurred innovation, preserved resources, and promoted the development of a green economy. Additionally, AI's influence on economic growth often operates through trade liberalization. AI enables economies to adapt more effectively to free trade agreements, fostering technological progress and facilitating access to new markets for expansion. Moreover, AI plays a pivotal role in attracting foreign direct investment (FDI), which promotes technology transfer, generates employment opportunities, and drives economic growth [30] these findings shows that AI's transformative capacity as a critical driver of modern economic development.

From the perspective of public services, developing technologies present transformative opportunities to improve governance and the public's interaction with government systems. The integration of AI has become a vital element in administrative reform efforts, striving to establish a bureaucracy and public service framework that is more effective, efficient, and equitable. Oxford Insights developed the AI Government Readiness Index to assess governments' preparedness to implement AI in public service delivery. The index evaluates readiness across three key pillars: governance**,** which examines policy frameworks and leadership; the technology sector**,** which evaluates innovation capacity and technological resources; and data and infrastructure, which focuses on the availability and accessibility of data and digital infrastructure necessary for AI deployment [31].

2.3 Trade Openness

Besides technological advancements, one of the most transformative developments of the past century has been the integration of national economies into the global economic system, which has significantly accelerated the growth of international trade or trade openness. Trade openness refers to the exchange of goods and services between countries, encompassing exports and imports within a market framework, with the aim of maximizing mutual benefits for all parties involved. From the Mercantilist perspective, however, trade openness is viewed as a zero-sum game—a dynamic in which one party's gain comes at the expense of another's loss. According to this theory, exports are perceived as advantageous (a win), while imports are seen as detrimental (a loss). Consequently, Mercantilists advocate for policies that prioritize exports and minimize imports to enhance a nation's economic position [32]**.** David Ricardo's theory of comparative advantage asserts that nations can mutually benefit from trade openness by specializing in the production of goods for which they hold a comparative advantage. This principle implies that even if one country is less efficient in producing all goods compared to another, both can still achieve gains from trade [33]. By focusing on goods they can produce relatively more efficiently, countries can optimize resource allocation and enhance overall economic welfare through the exchange of these specialized products.

Several studies have found a relationship between trade openness and economic growth. Research by [34] utilized an endogenous growth model to analyze the long-term relationship between trade openness and economic growth in China from 1975 to 2009. By employing individual trade indicators and a composite trade openness index as measures of trade openness, their results indicated a positive association with economic growth in both the short and long term. Similarly [35] identified a positive relationship between trade and economic growth in Nigeria during the period 1960–201. However [36] found contrasting results, showing a positive

short-term relationship between trade and economic growth but a negative long-term impact. In Kazakhstan, [37]) examined the relationship between trade and growth from 1992 to 2020, finding that trade had a significant negative effect on economic growth in both the short and long term. These findings highlight the varying impacts of trade on economic growth across different contexts and timeframes, reflecting the complexity of this relationship.

In another recent study, [38] suggests that trade openness, specifically exports, does not have a direct effect on economic growth in Indonesia. This conclusion is supported by findings showing that despite a decrease in exports, the trade balance remains in surplus. In addition, a study conducted by [39] examined the effects of exports and imports on Indonesia's economic growth from 1999 to 2020, both in the short and long term. Using regression analysis through the Error Correction Model (ECM) method, the study revealed that both exports and imports significantly impact economic growth in both timeframes. Additionally, [40] employing a descriptive qualitative approach, highlights the essential role of international trade—through export and import activities—in driving economic growth. This study indicates that trade openness expands market opportunities for domestic products, facilitating economic development by opening access to broader markets.

2.4 Inflation

Economic growth is intricately linked to macroeconomic variables, with inflation being one of the most debated topics in both theoretical and empirical research. Different schools of thought offer contrasting perspectives on the inflation-growth nexus. Structuralists argue that inflation can have a positive impact on economic growth by stimulating economic activity, particularly in developing economies. Neoclassical economists argue that inflation may promote growth by redistributing income toward wealthier capitalists, who tend to have higher savings rates, thereby increasing overall savings and investment. Similarly, Keynesians suggest that inflation can enhance economic growth by raising profit margins, which incentivizes private investment and fosters economic expansion [41]. Meanwhile, monetarist perspectives explain that inflation adversely affects economic growth. They highlight its detrimental effects on capital accumulation, investment levels, and export competitiveness, ultimately constraining long-term economic progress. These divergent views underscore the complexity of the relationship between inflation and economic growth, varying across different economic contexts and conditions [42].

Empirical studies also reveal different outcomes regarding the relationship between inflation and economic growth. Research by [43] employed Vector Autoregressive (VAR) models, cointegration techniques, and unit root tests on time-series data from 1996 to 2018 to examine the impact of inflation on economic growth in Vietnam. The results revealed a positive correlation between inflation and economic growth, both in the short and long term. In line with [44] analyzed the relationship between inflation and economic growth in Nigeria from 1970 to 2010 using the Augmented Dickey-Fuller test for unit roots and Granger causality tests. The findings demonstrated that inflation positively influences economic growth by enhancing productivity, increasing output levels, and improving total factor productivity. Another study investigated relationship between inflation and GDP growth for four South Asian countries: Bangladesh, India, Pakistan, and Sri Lanka [45] found a positive long-term relationship between inflation and economic growth. These studies collectively highlight that, under certain

conditions, inflation can serve as a driver of economic expansion by fostering productivity and output.

On the other hand, research by [47] identified a negative impact of inflation on Indonesia's economic growth, attributing it to high inflation rates during the study period caused by rising fuel prices. Using the ARDL method [48] analyzed data from Nigeria (1980–2018) and found that inflation significantly negative on economic growth. Research by [49] found a similar negative relationship for Indonesia over the period 1983–2014, with inflation considered a key determinant affecting economic growth. Then, [50] applied the autoregressive distributed lag (ARDL) bounds testing approach and Granger causality multivariate tests on time-series data from 1970-2019 to examine inflation and economic growth in Kenya. Their results indicated that inflation worsens economic growth in Kenya. Meanwhile, other studies have found no significant relationship between inflation and economic growth [51], [52], [53], [54]

2.5 Unemployment

Unemployment is another critical macroeconomic variable influencing economic growth, with Okun's Law—proposed by Okun (1962)—being widely used to explain this relationship. Okun's Law posits a negative correlation between changes in unemployment rates and aggregate output, suggesting that higher unemployment is associated with reduced economic growth [55]. This dynamic has been the focus of extensive research [56], [57], [58]. The impact of unemployment on economic growth from 1996 to 2012 by research [59] was examined in both the short and long terms using the Autoregressive Distributed Lag (ARDL) model. The model's estimates revealed a significant and negative effect of unemployment on economic growth in the long term, indicating that unemployment decreases economic growth over the extended period. Similarly, [60] investigated the relationship between unemployment and GDP growth in seven Western Balkan countries and observed a trade-off between the two variables, aligning with Okun's Law. In a study of Nigeria [61] Results from the period 1980-2016 showed similar findings. Other researchers supporting these results include [62], [63]. Meanwhile, [64] using simple regression to investigate the impact of unemployment on economic growth in Albania from 2000 to 2013, the results indicated that the observations did not align with Okun's Law for Albania. This discrepancy is attributed to the significant economic crisis during the study period, which hindered improvements in economic conditions

3 Research Method

To examine the impact of independent variables on economic growth, this study utilizes secondary data sourced from the World Development Indicators and Oxford Insights. Since the data used are secondary, the appropriate data collection method for this research is the literature review method. A literature review involves systematically gathering and reviewing relevant books, articles, and scholarly papers related to the research topic. This approach ensures the validity and reliability of the data by drawing from well-established and credible sources. The research employs a quantitative analysis approach using a panel data regression model, focusing on seven ASEAN countries: Malaysia, Brunei, Indonesia, Thailand, Singapore, Cambodia, and the Philippines. The data analysis is performed using EViews 12 software, which is a widely

used tool for econometric modeling and statistical analysis. The basic mathematical model for this study can be outlined as follows:

$$GDP = f(AI, INF, TRADE, UNM)$$

The regression equation model in this study is formulated as follows:

$$GDP_{it} = \alpha + \beta_1 AI_{it} + \beta_2 INF_{it} + \beta_3 TRADE_{it} + \beta_4 UNM_{it} + \varepsilon$$

Note:

GDP	: Gross Domestic Product
AI	: AI Goverment Readiness Index
INF	: Inflation
TRADE	: Trade Openess
UNM	: Unemployment
i	: Cross section
t	: Time series (tahun)
β	: Coefficient
α	: Constanta
εi	: eror term

In this study, the dependent variable is economic growth, proxied by Gross Domestic Product (GDP) at constant prices. Constant price GDP is the total value added by all producers in the economy, plus product taxes and minus subsidies not included in the product value. This measure is calculated without subtracting depreciation of capital assets or depletion and degradation of natural resources. The data, expressed in constant 2015 US dollars, reflects this adjusted value. The independent variables used in this study include the AI Readiness Goverment Index which describes a country's readiness to adopt and implement artificial intelligence within its governance framework. The next variable is trade openness which is proxied by the ratio of exports and imports relative to GDP, indicating the level of integration into the global market. Then, Inflation as measured by the annual growth rate of GDP implicit deflator shows the rate of price change in the economy as a whole. The GDP implicit deflator is the ratio of GDP in current local currency to GDP in constant local currency. Unemployment which is included as a macroeconomic variable to assess its potential impact on economic growth in the selected ASEAN countries.

4 Result and Discussion

The research findings, obtained from panel data analysis using EViews 12, include data from seven ASEAN countries for the period 2020-2023. The regression results are shown in Table 1. Column (1) shows the analysis results using the common effect model, column (2) shows the results from the fixed effect model, and column (3) shows the results from the random effect model. The best model selected for this study is the fixed effect model. Both AI and inflation have a positive and significant impact, while trade openness and unemployment have a negative and significant effect on economic growth in the studied region. Based on column (2), which presents the fixed effect model estimator results, the Adj R-Square value is 0.999269, indicating

that 99% of the variation in the dependent variable can be explained by the independent variables, with the remaining 1% accounted for by factors not included in the study. The Prob(F-statistic) value is 0.000000, which is less than 0.05, suggesting that all independent variables in this study are simultanously significant in explaining the dependent variable.

Table 1. Estimation Result

Variable	Economic Growth			
	(1)	(2)	(3)	(4)
C	22.70790	26.19944	26.18791	
	(0.0000)	(0.0000)	(0.0000)	
AI	0.113440	0.003343	0.003598	
	(0.0000)	(0.0391)*	(0.0239)	
Trade Openness	-0.013645	-0.002574	-0.002590	
	(0.0004)	(0.0353)*	(0.0242)	
Inflation	-0.126424	0.013030	0.012555	
	(0.2780)	(0.0345)*	(0.0367)	
Unemployment	-0.265598	-0.036179	-0.035863	
	(0.0503)	(0.0801)**	(0.0730)	
R2	0.570650	0.999539	0.354047	
Adj R2	0.495980	0.999269	0.241707	
F-Statistic	7.642328	3689.730	3.151572	
Prob-F Static	0.000453	0.000000	0.033301	
Prob Uji Chow				0.0000
Prob Uji Hausman				0.0001

*significant at level 5%
** significant at level 10%

The Impact of AI in Economic Growth

Based on the analysis, AI shows a statistically significant positive relationship with economic growth. This positive association between AI and economic growth has also been observed in studies by [25], [65], [66], [67], [68]**.** In recent years, AI advancements have fueled innovation across various sectors of the economy, leading to significant improvements in economic performance. AI is not merely a technological tool; it is a key driver of a sustainable, globally competitive economy. AI's capabilities enhance efficiency, foster innovation, and increase productivity across both micro and macro businesses, which in turn improves the quality of exports, imports, and international trade [69]. By automating processes, AI can boost productivity, promote innovation, create new job opportunities, and generate positive economic trends. Additionally, AI holds the potential to enhance public services in a more effective and responsible manner, offering governments the opportunity to improve service delivery and overall governance.

The use of AI in public services, such as education and healthcare, can accelerate the enhancement of human resources, thereby increasing productivity. From an infrastructure perspective, the government's readiness to adopt AI can lower operational costs and boost efficiency. Furthermore, AI has the potential to increase public trust in government institutions, fostering a stable and attractive environment for investment. This makes the government's

preparedness to implement AI crucial for unlocking the full range of benefits and opportunities that this technological advancement offers. Moreover, AI has the potential to contribute up to $15.7 trillion to the global economy by 2030 and generate a labor productivity increase of over 55% of the total GDP gains from AI during the period 2017-2030 [70]. Research by [25] highlights the importance of institutions and education for economic integration and technological progress. While AI has a substantial and positive impact in developed countries, its long-term growth implications are less pronounced in less-developed nations. This suggests that adequate infrastructure and robust institutions—more commonly found in developed countries—are essential for fully leveraging AI within an economy. In turn, this will positively influence economic growth.

The Impact of Trade Openness on Economic Growth

Based on the conducted analysis, trade openness shows a statistically significant negative relationship with economic growth. This finding is consistent with research conducted by [36], [37], [71] which shows that trade openness can adversely affect economic growth. Trhe research by [72] explains negative impact of trade openness is often observed in middle-income countries. Trade is beneficial to a nation when it has reached a more advanced stage of economic development. One of the main challenges faced by middle-income countries is limited competition in key sectors within the global market. Moreover, negative impacts can arise when a country's exports are heavily concentrated in raw materials and consumer goods, as opposed to capital goods. In such economies, exports tend to focus on a narrow range of fundamental or primary commodities, such as crude oil, natural gas, and petroleum products, which often lack the added value of more complex, manufactured, or competitive goods. This lack of diversification in exports can hinder the potential for sustainable and inclusive economic growth

Based on national income accounting, exports contribute positively to GDP, whereas imports have a negative impact ($Y = C + I + G + X - M$). This suggests that the benefits derived from exports have not yet been able to fully offset the negative effects of imports. The adverse impact of imports may stem from several factors, including weak institutional frameworks, suboptimal economic structures, or ineffective development strategies. Increased global trade could potentially hinder productivity and investment growth, particularly in less advanced countries. This is often the result of inadequate institutional quality or flawed national policies that fail to capitalize on the opportunities provided by trade. This is also explained by [73] which shows that in developing countries with generally weak trade openness policies, international trade can actually reduce economic growth and external balance due to the phenomenon of 'preferences erosion'. This occurs when countries, particularly those with less competitive economies, struggle to maintain favorable terms of trade, ultimately undermining the potential economic benefits from global trade.

The Impact of Inflation on Economic Growth

Based on the analysis conducted, inflation shows a statistically significant positive relationship with economic growth. This result aligns with both structuralist and neoclassical theories, which propose that inflation can spur economic growth. In the short term, there appears to be a trade-off between inflation and growth, where moderate inflation can lead to increased economic

activity, showing a positive correlation between the two variables during this period. However, in the long term, if inflation persists or accelerates, it is likely to have adverse effects on GDP, leading to a decline in economic growth. This suggests that while inflation may provide temporary economic stimulus, sustained high inflation can undermine economic stability and growth in the long run [74]**.** This study is consistent with the findings of [43], [44], [45], [75], [76] all of which also found a significant positive relationship between inflation and economic growth.

Some research by [77] explains at certain levels, inflation can stimulate producers to increase output. As inflation raises the prices of goods and services, producers respond to higher prices by increasing production, in line with the law of supply. To meet the higher demand, producers will hire more labor, thus reducing unemployment. If the increase in production is matched by prices remaining affordable to consumers—due to inflation staying relatively low—consumer purchasing power won't be significantly reduced. As a result, this scenario can lead to economic growth despite rising inflation levels. However, this effect is contingent on inflation remaining at manageable levels to avoid eroding consumer purchasing power or destabilizing the economy.

Inflation levels in ASEAN countries remain within a safe range, typically below 7 percent per year. Although there is no officially defined threshold at which inflation adversely affects economic growth, various studies provide differing results. Research examining 145 countries [78] found that inflation is not only a statistically significant determinant but also one of the crucial factors influencing growth. This study indicates that at low inflation levels, specifically between 2-3 percent annually, inflation and economic growth have a positive relationship. Further analysis of 5 ASEAN countries [79] finds a statistically significant negative relationship between inflation and economic growth at a threshold of 7.84%. When inflation exceeds this threshold, it begins to hinder economic growth. Additionally, [80] finds that inflation has a nonlinear effect on economic growth with varying thresholds: 5% for the entire sample, 1.23% for advanced economies, 14.54% for developing countries, 10.27% for upper-middle-income countries, and 19.64% for lower-middle-income countries. The study by [81] reveals that the threshold inflation rates are approximately 1-3% for advanced economies, 7-11% for developing countries, and 8-12% for all countries.

The Impact of Unemployment on Economic Growth

The analysis shows a significant negative relationship between unemployment and economic growth, supporting Okun's Law, which posits that as unemployment rises, economic growth declines. Several other studies also identify a similar negative relationship between unemployment and economic growth [82], [83]. High unemployment rates typically lead to a reduction in real GDP and per capita income, which in turn lowers living standards. With more individuals out of work, there is less contribution to the production of goods and services, which restricts overall economic output. Furthermore, high unemployment can lead to a decrease in consumer purchasing power, which reduces aggregate demand and hampers economic growth. Beyond its economic impact, unemployment poses a social burden, contributing to higher poverty rates, mental health challenges such as depression and distress, and increased crime. These social issues can further harm the country's development, negatively affecting both social and economic well-being.[83].

5 Conclusion

Many studies have explored the factors influencing economic growth, yet there is still no clear consensus on the findings. This research investigates key factors affecting economic growth in seven ASEAN countries through panel data analysis. The results suggest that the AI Government Readiness Index and inflation have a positive impact, while trade openness and unemployment show a negative impact on economic growth. To capitalize on the potential benefits of technological advancement, governments should develop strategic and comprehensive policies to enhance their AI Government Readiness Index. From a policy perspective, it is essential to understand the specific mechanisms through which international trade influences the economy. To mitigate the negative effects of imports, prioritizing domestic production, encouraging local investment, and striving for self-sufficiency are crucial steps to avoid excessive reliance on external markets. On a macroeconomic level, effective coordination of monetary and fiscal policies is necessary to keep inflation under control. Furthermore, creating job opportunities and improving training programs are essential to reduce unemployment levels and support sustainable economic growth.

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