

Assessing The Contribution of FDI, Industry, Education, Corruption and Urban Population to Economic Growth in Asean Countries

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Abstract

This study will explore the impact of FDI, mean years of schooling, control of corruption and urban on economic growth. The research gap examines the mean years of schooling and quality of education in eight ASEAN countries. A quantitative approach is employed, utilizing the OLS method and EGLS method to reduce estimation bias. Education quality data is measured using government expenditure for education indicators. Data collection for 2009-2023 was sourced from the World Bank, ADB, and UNDP. This study is limited to eight ASEAN countries, potentially limiting the generalizability of the findings. The limitation to eight countries is the unavailability of complete data for 15 years for the other ASEAN countries. The findings of this research show that FDI, Industry, and mean years of schooling significantly support economic growth in asean, while control of corruption and urban population growth show negative and significant effects on economic growth. To enhance economic growth, ASEAN policymakers should prioritize attracting FDI, strengthening the industrial sector, and improving education quality, while simultaneously addressing the negative impacts of rapid urbanization and implementing more effective and growth-sensitive anti-corruption measures.

Keywords: FDI; Mean Years of Schooling; Control of Corruption; Urban; Economic Growth

1. Introduction

Economic growth serves as a fundamental metric for evaluating the success of a nation's development initiatives. In an era marked by globalization and the intensification of international trade, a multitude of factors including macroeconomic policies, foreign direct investment (FDI), human capital, and technological innovation play a critical role in shaping economic growth trajectories (Banday et al., 2021; Febriyanto et al., 2024; Saidi & Ochi, 2023). In the Southeast Asian region, particularly among ASEAN member states, these dynamics manifest uniquely due to the region's economic heterogeneity and distinct policy approaches. ASEAN (Association of Southeast Asian Nations) comprises ten member states with diverse economic, social, cultural, and political contexts. Although foreign direct investment (FDI), the role of the industrial sector, education, education quality, and governance are widely recognized as key drivers of economic growth, empirical studies of the relationships between these variables often yield inconsistent results across countries, particularly within the ASEAN region.

This uncertainty raises critical questions about the extent to which each of these factors significantly influences economic growth and can be optimized to support sustainable development. This study examines the ASEAN region to determine the impact of selected independent variables within a framework representing a mix of economic development stages, governance systems, and sociocultural backgrounds. This diversity presents challenges in understanding economic phenomena and the factors that influence them, as well as how ASEAN as a whole manages economic growth. As a region with bilateral relations among countries, studying ASEAN integration, economic collaboration, and social development is of interest.

This study uses data for all variables from a single World Bank data source. Since two countries have not provided complete data or the data is unavailable, this study will utilize eight ASEAN countries, Indonesia, Malaysia, Singapore, Thailand, Lao PDR, Vietnam, Cambodia, and the Philippines. These eight countries represent a diverse population with sufficient academic resources for comprehensive research (Cong & Hien, 2016; Raihan et al., 2024; Thao Huong & Nguyen, 2022). Foreign Direct Investment (FDI) is one of the factors that can drive a country's economic growth (Yue, 1996; Banday et al., 2021). FDI refers to investments made by companies or individuals from one country into another, in the form of establishing or acquiring companies, or investing in fixed assets such as factories and production equipment (Agudze & Ibhagui, 2021). FDI is important because it brings in capital, technology, and expertise, which can enhance productivity and create job opportunities (Prastity & Cahyadin, 2015).

In the ASEAN region, FDI plays a strategic role as a key driver of economic growth, especially in developing countries such as the Lao PDR and Vietnam. For more advanced countries like Thailand, FDI is often focused on the development of more advanced industrial sectors and the services sector (Dash, 2022). The inflow of FDI creates a multiplier effect that supports economic growth through technology, managerial expertise, and capital from developed countries to developing nations (Bobenič Hintošová & Bódy, 2023). The increase in output will boost economic growth and create job opportunities, which in turn will have an impact on both the economy and society, ultimately improving the welfare of the population; however, this finding is not supported by (Febriyanto et al., 2024) other research suggests that FDI has a negative and significant effect on economic growth.

Thailand is recognized as one of the manufacturing hubs in ASEAN, boasting a strong industrial base (Rammal & Zurbruegg, 2006). The country attracts significant foreign investment, particularly in the automotive, electronics, and infrastructure sectors, due to its skilled labor force and developed infrastructure systems. Lao PDR, on the other hand, has a lower economic level compared to its ASEAN neighbors (Thangavelu & Narjoko, 2014). However, in recent years, the Lao PDR has attracted significant FDI, particularly from China, in large infrastructure projects such as hydropower plants and railway projects, as part of the Belt and Road Initiative. Vietnam has experienced a remarkable increase in FDI inflows, especially in the manufacturing and technology sectors (Vo et al., 2019). The country is considered a potential alternative for global supply chains due to its lower labor costs compared to China and its increasingly open economic policies toward foreign investment (Febriyanto et al., 2024; Hoi et al., 2024). In addition to investments in technology, knowledge, and capital in the form of assets such as money, goods, or services, the role of human capital must also be enhanced to support productivity, thereby contributing to economic growth. Human capital can be assessed through indicators such as the Mean years of schooling and Government spending on Education.

The existence of human capital plays a crucial role in a country's economic growth. Human capital formation is the process of developing the knowledge, skills, and abilities of a country's population (Horii et al., 2008). The World Economic Forum emphasizes that human resources are a crucial asset for a country's economic development. The mean years of schooling are a measure of human resource development, and government spending on education is an indicator of human resource quality. The higher the mean years of schooling and the higher the quality of education in a country, the more likely individuals are to possess the skills and knowledge needed to work in more advanced industrial sectors, which in turn can increase productivity and economic growth (Mariana, 2015; Mussaiyib & Pradhan, 2024; Zouine et al., 2024). Individuals with a high level of educational quality are more likely to make informed decisions, taking into account all potential risks. Thus, education not only advances economic development but also improves the quality of life of the wider community (Mariana, 2015; Zouine et al., 2024).

Supporting sustainable economic growth in ASEAN countries such as Indonesia, Malaysia, Singapore, Thailand, Laos, Vietnam, Cambodia, and the Philippines requires managing and utilizing foreign investment, improving the quality of education, and developing a strong and globally competitive industrial base (Iqbal Haidar, 2021). Previous research has shown that, although education has a significant impact on economic growth, its influence is still ambiguous (Immurana et al., 2024; Mercan & Sezer, 2014). Human capital, as measured by average years of schooling and education quality, is expected to be a factor that increases productivity. Ramoni-Perazzi & Romero (2022) revealed that although education spending is widely considered a long-term investment in improving the quality of human capital, its positive impact on economic growth is often only apparent in the long run and is highly dependent on the efficiency of its implementation and the relevance of education to labor market demands. These findings suggest that large education budget allocations do not automatically increase productivity if the existing education system fails to develop the skills needed by the business and industrial sectors.

Previous studies have consistently shown the industrial sector to be one of the most significant engines of economic growth, particularly in developing regions such as Southeast Asia (Kuo et al., 2020; Na & Kang, 2019). The transition from an agrarian-based economy to one driven by industry and services is widely considered a fundamental process of economic transformation. This shift has enabled ASEAN countries to increase income and productivity, driving structural changes that contribute to economic long-term stability and development (Habanabakize & Dickason-Koekemoer, 2023; Ibitoye et al., 2022; Raihan et al., 2024). A robust industrial sector not only produces high-value-added products but also enhances a country's competitiveness in international markets through export diversification and quality improvement. This, in turn, contributes substantially to Gross Domestic Product (GDP) while creating broad employment opportunities across skill levels (Ndiaya & Lv, 2018).

The industrial sector also plays a role in driving technological innovation and investment in research and development (R&D). This progress often has a multiplier effect on other sectors, such as services and agriculture, further strengthening the overall economy. Empirical studies show that rapid industrialization efforts in Thailand, Vietnam, and Malaysia have been shown to accelerate economic growth and increase resilience to external shocks (Lin et al., 2024). Achieving economic growth through an industrial development strategy hinges on the need to upgrade the skills of the workforce to meet the demands of increasingly complex technology and innovation. This is where appropriate education and the quality of education become crucial. This challenge is all the more pressing as previous studies, such as Wan et al. (2022), have

demonstrated the impact of technology on productivity, requiring a workforce ready to adapt to these rapid changes.

Another aspect that can influence sustainable economic growth is the urbanization process. Relatively rapid urbanization can have negative impacts, even in countries with strong institutions. In some cases, urban population growth can be a symptom of inefficiencies in slow bureaucratic processes. Previous studies have shown that urbanization impacts development, but conversely, development cannot occur without. Recent research by B. Liu & Liu (2025) found that effective anti-urban population growth strategies, such as a national integrity system that encompasses citizen participation, the rule of law, balanced institutional incentives, and transparency between institutions, contribute significantly to economic growth, foster a competitive business climate, and create a healthier institutional environment. This research highlights that integrity transformation through a structured and participatory approach to anti-urban population growth is a crucial pathway to strengthening institutional foundations that support sustainable economic development.

This study will explore the impact of FDI, Mean Years of Schooling, and education quality on economic growth. This study differs from previous research in examining the integration of these three variables in ASEAN on economic growth. Past studies have explored these factors individually; for example, Chandran & Tang (2013) analyzed the relationship between FDI and economic growth in ASEAN countries, highlighting the positive role of FDI inflows in stimulating economic performance. Lim (2012) investigated the effect of educational attainment on industrial productivity, emphasizing the importance of human resource development for improving sectoral efficiency. Borensztein et al., (1998) study found that FDI contributes more effectively to growth when combined with a skilled workforce, suggesting an interactive effect between investment and education. Therefore, this study focuses on integrating these three dimensions to provide a more comprehensive understanding of their synergistic impact on economic growth, particularly in the context of ASEAN countries.

2. Literature Review

Economic Growth

Neoclassical theory, as developed by Solow (1956) states that economic growth is influenced by capital accumulation, labor force growth, and technological progress. The Solow-Swan model forms the foundation of this theory, explaining that long-term economic growth can only be sustained through technological innovation, as capital accumulation tends to yield diminishing returns. In this model, technology, as measured by the Solow residual, is considered the primary driver of productivity growth that cannot be explained by traditional inputs. Solow also highlights the crucial role of government policy in encouraging technological innovation and improving workforce skills to support sustainable economic growth.

However, the neoclassical approach has been criticized for its static nature, particularly because it assumes that technological innovation is exogenous (external to the economic system). Endogenous growth theory, as developed by Romer (1990), offers an alternative perspective by emphasizing that technological innovation and human resource development are endogenous, meaning that both can be generated from within the economy itself. This theory highlights the crucial role of investment in research and development, education, and human capital as key drivers of long-term economic growth. This theory argues that policies that support education directly increase technological innovation and economic productivity (Aghion & Howitt, 1998). Neoclassical theory provides a conceptual foundation for understanding the importance

of technological innovation in economic growth, while endogenous growth theory expands on this idea by emphasizing that technological progress can be driven through investment in human capital and research and development. The relationship between these two theories underscores the role of government policy as a key facilitator in promoting education, workforce training, and technological innovation to achieve sustainable economic growth.

Foreign Direct Investment

Foreign Direct Investment (FDI) is a key driver of economic growth, especially for developing countries. According to neoclassical growth theory (Solow, 1956), FDI has a direct impact on company operations (Arbia & Sobhi, 2024; Febriyanto et al., 2024). The relationship between FDI and economic growth has been explained in both neoclassical growth theory and endogenous growth theory (Romer, 1990; Solow, 1956). Consistent with neoclassical theory, the production function is linked to technology, capital, and labor (Solow, 1956). Previous research by Arbia & Sobhi (2024); Ngoc et al. (2024) indicates that FDI has a positive and significant impact on economic growth.

The neoclassical model explains that FDI influences the national production function through increases in capital and technology, which are key inputs for economic growth. This approach is relevant in many ASEAN countries, where political stability and investment-friendly policies have created a conducive climate for attracting FDI (Aloui et al., 2024; M. L. T. Nguyen, 2022). Despite its numerous benefits, FDI also faces criticism from the perspective of endogenous growth theory (Romer, 1990). Sustainable economic growth emphasizes domestic innovation and internal capacity development, rather than reliance on foreign capital. Excessive FDI can stifle local innovation because multinational companies often dominate domestic markets without encouraging significant collaboration with local industries. This is particularly evident when FDI is not accompanied by clear technology transfer policies or efforts to upgrade the skills of the local workforce (Aloui et al., 2024; Ngoc et al., 2024; M. L. T. Nguyen, 2022).

H₁: Foreign direct investment has a positive effect on economic growth.

Industry

The industrial sector in developing countries has been proven to drive economic growth, particularly through its contribution to increasing Gross Domestic Product (GDP). According to Human Capital Theory and Endogenous Growth Theory (Romer, 1990), the industrial sector plays a crucial role in increasing productivity through investment in research and development, as well as human capital accumulation. Manufacturing firms have actively contributed to innovation and production efficiency, strengthening global competitiveness (Li & Jin, 2024). Empirical studies show that countries that have successfully industrialized, such as Vietnam and Thailand, have experienced rapid GDP growth due to the expansion of their manufacturing sectors (Bashir et al., 2019; T. T. Nguyen et al., 2014). The industrial sector also has significant capacity to create jobs for both skilled and unskilled workers, supporting social inclusion and economic growth (Putri et al., 2023; Vo et al., 2019). However, the excessive focus on the industrial sector to drive economic growth is not without criticism. From the perspective of structuralist development theory, dependence on the industrial sector can lead to inter-regional economic disparities and social exclusion, particularly in developing countries. Furthermore, industrialization is often accompanied by significant environmental impacts, such as pollution and exploitation of natural resources, which can harm long-term quality of life. In this context, degrowth theory, which focuses on reducing consumption and production to achieve balance with the environment and improve quality of life, argues that industrial-based economic growth needs to be balanced with a sustainable approach that prioritizes social and ecological well-being over simply increasing economic output (Jackson, 2009).

Endogenous growth theory and the sustainability approach suggest that the industrial sector can be a driver of inclusive and sustainable economic growth if integrated with policies that promote economic, social, and environmental balance. This approach emphasizes the importance of developing green industries that combine technological innovation with sustainability principles to minimize environmental impacts while creating jobs and increasing GDP (Jackson, 2009; Romer, 1990). Thus, the industrial sector can catalyze balanced and sustainable economic development.

H₂: Industry has a positive effect on economic growth.

Education

Higher education contributes significantly to improving workforce skills and productivity. Human Capital Theory Becker (1975) views education as an investment that enhances an individual's ability to produce high-value goods and services. Educated workers tend to be more adaptive to technological change and able to implement innovations in the workplace. Research shows that countries with higher levels of education are generally more efficient in adopting new technologies, which in turn increases overall economic competitiveness (Cuaresma & Mishra, 2011). Research by Mariana (2015; Mercan & Sezer (2014); Zouine et al. (2024) that education has a significant impact on economic growth. Education plays a crucial role in promoting social mobility and reducing economic inequality. By expanding access to quality education, individuals from disadvantaged economic backgrounds are empowered with the skills and knowledge necessary to secure better employment opportunities, increase their income, and elevate their social status. This, in turn, contributes to reducing the economic disparities that exist between various social groups (Becker, 1993).

Education promotes inclusiveness by equipping marginalized communities with the tools to participate more actively in economic and social activities. Other studies show that investment in equitable education systems is directly related to reducing income inequality and increasing mobility across society (Mercan & Sezer, 2014). Furthermore, education increases civic awareness and participation, which strengthens democratic institutions and social cohesion. Education fosters critical thinking and innovation, enabling individuals to contribute effectively to economic growth and societal well-being (Claro et al., 2016).

Criticisms of this approach have arisen, particularly from the perspective of Credentialism Theory. This perspective argues that increased educational attainment does not necessarily reflect improved skills or productivity, but rather serves as a selection tool for specific occupations (Phillips & Collin, 1979). Education often serves as a symbol of social status, rather than enhancing skills relevant to workplace productivity. Furthermore, disparities in access to education remain a significant issue in many countries, with only individuals from higher economic groups able to fully benefit from the higher education system. Reliance on education as a tool for economic mobility can exacerbate inequality when the education system is not inclusive (Brown, 2003). Human capital theory and Credentialism suggest that education has the potential to increase productivity and social mobility, but its impact depends heavily on the accessibility and relevance of the curriculum to labor market demands. Education should be designed not only to provide technical skills but also to strengthen adaptability, innovation, and problem-solving. By ensuring an inclusive and relevant education system, education can be an effective tool in improving economic well-being and reducing social inequality (Becker, 1993).

H₃: Mean years of schooling has a positive effect on economic growth.

Control of Corruption

Smith (2005) The primary function of government is regarded as a crucial element in

maintaining political stability. Such stability is considered essential for ensuring that markets can operate efficiently without disruptions such as conflict or warfare. According to Smith, the government holds the responsibility of upholding justice through the implementation of a fair legal system and consistent enforcement of regulations. He also asserts that a stable and growing economy can contribute to the achievement of political stability; economic growth enhances state revenue through taxation, which can be utilized to strengthen public services and infrastructure development. Furthermore, economic stability is believed to mitigate the risk of social conflict, which could otherwise threaten political order. Nonetheless, Smith emphasizes that economic inequality may undermine the political legitimacy of the government, thereby making equitable wealth distribution a fundamental condition for sustaining political stability.

H₄ : Control of Corruption has a positive effect on economic growth.

Urban Population Growth

Urban population growth refers to the increasing number of people residing in urban areas as a result of urbanization and natural population increase. This phenomenon plays a vital role in shaping the structural transformation of economies, particularly in developing regions such as ASEAN. The growth of urban populations is typically driven by greater economic opportunities, access to education and public services, and the concentration of industrial and commercial activities in cities (Y. Liu et al., 2024). In the broader context of development, urbanization promotes productivity, innovation, and labor market expansion. However, rapid urban population growth can also create challenges, including congestion, pressure on public infrastructure, and social inequality, especially when urban development is not well planned or managed sustainably (Gross & Ouyang, 2021).

According to H. M. Nguyen & Nguyen (2018) urbanization has a positive and significant impact on economic growth across seven ASEAN countries Brunei, Cambodia, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam during the period 1993–2014. Using static and dynamic panel data models, the study finds that an increase in the level of urbanization contributes to higher per capita income. Nevertheless, the relationship is non-linear, following an *inverted U-shaped* pattern, where economic growth begins to decline once urbanization exceeds a threshold of approximately 67–70 percent. This decline occurs due to the emergence of *diseconomies of agglomeration* such as traffic congestion, pollution, and infrastructure inefficiencies.

H₅ : Urban Population Growth has a positive effect on economic growth.

3. Methods

3.1 Data description

This study uses secondary data sourced from the World Bank, the Asian Development Bank, and the Human Development Index Report published by UNDP, for the period 2009 to 2023. This study uses Ordinary Least Squares panel data. This means that in panel data, past values of the observed variables are also used to explain current values. This study uses statistical software such as EViews. The sample used is eight ASEAN member countries such as Indonesia, Malaysia, Singapore, Thailand, Laos, Vietnam, Cambodia, and the Philippines, whose data is fully available during the study period. The diversity of sample characteristics provides a fairly comprehensive perspective on how FDI, Industry, mean years of schooling, urban population growth on economic growth impact economic growth in various contexts.

From the theory and based on previous studies related, this research uses the model of pooled data.

$$GDP_{it} = \beta_{0it} + \beta_1 FDI_{it} + \beta_2 IND_{it} + \beta_3 EDU_{it} + \beta_4 CORRUPT_{it} + \beta_5 URBAN_{it} + \varepsilon_{it}$$

Tabel 1. Data and Source

Variabels	Description	Indicators	Sources
GDP	Gross Domestic Product	%	www.worldbank.org
FDI	Foreign Direct Investment	%	www.worldbank.org
IND	Industry (Contribution to GDP)	%	www.adb.org
EDU	Mean years of schooling	Years	https://hdr.undp.org
CORRUPT	Control of Corruption	%	www.worldbank.org
URBAN	Urban Population Growth	%	www.worldbank.org

Economic Growth (GDP) is measured using the annual increase in a country's economic activity and serves as a leading indicator of overall economic health. Foreign Direct Investment (FDI) reflects capital flows from foreign investors and indicates international confidence in a country's economic stability. FDI drives growth through technology transfer, job creation, and infrastructure development. Mean years of schooling is measured completed by a population. Control of Corruption is an indicator used to measure the extent to which corruption is controlled within a country. It is based on assessments from various data sources that capture perceptions of corruption in the public sector, including the abuse of public office for private gain, as well as the effectiveness of a country's mechanisms for preventing and prosecuting corrupt practices. Urban population growth is the growth of the population in urban areas over a given time period, reflecting how quickly the number of people living in cities is increasing, both due to natural growth (births and deaths) and migration from rural areas to cities.

Urban population growth serves as a key indicator of urbanization dynamics, reflecting the pace at which a country's population is shifting toward cities. Rapid growth often signals economic pull factors and agglomeration effects, but it can also reveal pressures on infrastructure, housing, and public services if not managed through effective urban planning and governance.

The pooled data model will be estimated using the Ordinary Least Squares (OLS) method. Pooled data models generally refer to panel data models. If the classical assumptions are not met during testing, other estimation methods adapted to behavioral data will be used. Based on the classical assumptions inherent in the OLS estimation method, the results obtained do not pass the heteroscedasticity and autocorrelation tests. Therefore, the estimation method will use the estimated general least square (EGLS). This estimation method is a general form of Ordinary Least Squares for transformed variables that meet standard least squares assumptions. Using the GLS estimator will reduce estimation bias and the results obtained will be Best Linear Unbiased Estimator-BLUE (Greene, 2003; Wooldridge, 2013).

4. Results

The results obtained in the pooled data calculation show that FDI, Industry, and mean years of schooling have a positive and statistically significant impact on economic growth. For control of corruption and the proportion of urban population has a negative effect on economic growth. The Foreign Direct Investment (FDI) variable shows a coefficient of 0.2686. This



indicates that a 1% increase in FDI relative to GDP is associated with an increase of approximately 0.26% in economic growth. The direction of the positive FDI coefficient supports the hypothesis that FDI contributes positively to economic development, in line with Neoclassical theory and empirical literature, which suggests that FDI increases productive efficiency, facilitates technology transfer, and promotes job creation.

The industry variable, which represents the contribution of the industrial sector to GDP, has a positive coefficient of 0.1157. This indicates that in this model, for every 1 percent increase in the contribution of the industrial sector to GDP it only increases economic growth by 0.11%. A surprising finding on the influence of mean years of schooling on economic growth, significantly increasing economic growth by 0.92% if the mean years of schooling is increased by 1 percent. The EDU coefficient value is the highest coefficient value compared to other coefficient values. The Edu variable is proven to have a relatively large influence on economic growth. The positive impact of mean years of schooling on economic growth is expected to increase worker productivity and increase income, which increases aggregate demand.

Tabel 5. The Structural Model Estimation Result with EGLS

Variable	Coefficient	Prob	Sig	Hypotheses
FDI	0.268680	0.0000	Significant	Yes
IND	0.115784	0.0003	Significant	Yes
EDU	0.922855	0.0000	Significant	Yes
CORRUPT	-0.067107	0.0004	Significant	No
URBAN	-0.059003	0.0003	Significant	No
Summary				
R-squared				0.669607
Adjusted R-square				0.651748
S.E. of regression				0.984227
F-statistic				37.49392
Prob(F-statistic)				0.000000

The corruption control variable shows a negative effect of -0.0671, meaning that a decline in annual economic growth of between 0.5 and 1 per cent will reduce economic growth during the research period. A negative effect was also found in the proportion of the urban population. The Urban Population Growth variable has a negative coefficient of -0.0590, indicating that an increase in urban population growth actually reduces the value of the economic growth variable. Thus, every 1 per cent increase in urban population growth will reduce the dependent variable, assuming other variables remain constant. The negative direction of this coefficient is in line with the theoretical expectation that higher urban population growth rates tend to hamper economic growth.

5. Discussion

The Impact of FDI on Economic Growth

Foreign Direct Investment (FDI) has a significant influence on a country's economic growth, in line with the proposed research hypothesis. This finding is supported by studies conducted by Arbia & Sobhi (2024); Ngoc et al. (2024), which consistently show that FDI has a positive and significant impact on economic development. The findings of this study indicate that FDI has a significant positive impact on economic growth in the ASEAN countries. FDI not only brings financial capital but also contributes to economic diversification, strengthens the industrial sector, and integrates local economies into global value chains. This makes these

countries' economies more resilient to sectoral shocks. For example, in Vietnam, substantial investment from multinational corporations such as Samsung in the electronics manufacturing sector has strengthened the country's position as a global manufacturing hub (Oh & Mah, 2017; Sheldon & Kwon, 2023). Furthermore, FDI drives job creation through the establishment of new businesses or the expansion of existing ones. This increase in employment directly increases household incomes, which in turn drives domestic demand. This creates a positive multiplier effect on economic growth (Dao et al., 2023; Fazaalloh, 2024). In Thailand, for example, the automotive sector, supported by FDI, has created numerous jobs in related sectors such as parts manufacturing and logistics (Triatmanto et al., 2023).

Although FDI has shown positive contributions, its success is heavily influenced by the policies and conditions of each country. During the study period, countries such as Vietnam and Thailand successfully created a conducive investment climate through policy reforms and international trade agreements. Vietnam, for example, actively signed free trade agreements such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), which boosted investor confidence (Sheldon & Kwon, 2023). These findings align with previous research highlighting the role of FDI as a key driver of economic growth. A study by Borensztein et al. (1998) emphasized that the positive impact of FDI can be maximized in countries with adequate human capital. This is particularly relevant in Thailand and Vietnam, where higher levels of education have contributed to the success of FDI in driving structural transformation.

The Impact of Industry on Economic Growth

The impact of industry on economic growth is in line with the hypothesis, which is positive. The finding that the industrial sector has a positive and significant impact on economic growth indicates that increased activity in the industrial sector will be followed by increased economic growth. In other words, the more advanced a region or country's industrial sector, the higher its economic growth rate. A positive coefficient reflects a direct relationship between industrial development and economic growth. This finding confirms that the industrial sector has proven to be a key engine of economic growth, as it is capable of creating significant added value, expanding employment opportunities, and increasing national productivity.

This finding aligns with economic development theory, which states that the industrialization process is a crucial stage in the structural transformation from a conventional economy to a modern, manufacturing-based economy. Increased industrial output leads to increased demand for labor, raw materials, and supporting services, thus creating a multiplier effect on other economic sectors. Therefore, it can be concluded that strengthening and developing the industrial sector significantly contributes to driving sustainable economic growth.

The industrial sector has long been viewed as the foundation of economic development, acting as a catalyst for a country's overall growth. Historically, the agricultural sector has been significantly more important, as ASEAN countries possess significant agricultural potential. This is also an economic issue that needs to be addressed through an economic approach Bashir et al. (2019). This sector also plays a key role in driving added value, export expansion, and employment. Regionally, industrialization in developing countries often faces obstacles such as inadequate infrastructure, urban population growth, and unfavorable regulations. For example, Rodrik (2016) highlights that the industrial sector's contribution to GDP in developing countries declines before reaching sufficient income levels for a transition to the service sector. (Haraguchi et al., 2017) echo Rodrik's opinion, arguing that the global contribution of the manufacturing sector to economic growth has declined, particularly in developing countries, due to changes in global supply chains and the adoption of automation technologies.

The Impact of Mean Years of Schooling on Economic Growth

This finding result is in line with the hypothesis that mean years of schooling has a positive and significant effect on economic growth. Previous studies, such as those by (Jin & Kim, 2024; Mariana, 2015; Mercan & Sezer, 2014), support the positive role of education in growth, which assumes high-quality educational systems. This result emphasizes that the quality of education, including its alignment with labor market demands, is a more critical determinant of its economic contribution than the quantity of years spent in formal education (Zhao, 2024).

Research findings may be due to factors such as the still low proportion of education budgets to GDP in ASEAN countries and suboptimal allocation of education budgets, despite the recognition that investment in human capital through the education sector can increase productivity and well-being, and contribute to economic growth (Triatmanto et al., 2023). In Vietnam and the Lao PDR, relatively rapid industrialization has increased the demand for workers with vocational and technical skills, which traditional academic curricula have failed to address. This mismatch between industry needs and traditional academic curricula can lead to high levels of graduate or tertiary unemployment, where workers cannot find jobs commensurate with their qualifications. Unequal access to quality education across regions and social groups remains a significant challenge for ASEAN countries (Groner & Moradi, 2024). Urban areas may have better access to resources, infrastructure, and teaching staff, while rural areas often lag in these areas. This gap leads to unequal human capital development, preventing certain groups from fully contributing to economic growth.

Sultana et al. (2022) obtained findings consistent with this study, which argue that mean years of schooling positively impacts economic growth even when education quality is substandard. All aspects of human capital (both education and health) have a positive effect on economic growth in developing countries. The relationship between human capital and economic growth is, in fact, more complex. Health aspects related to increased life expectancy can in some cases be a burden on growth, particularly due to aging populations and higher dependency ratios. Investments in health and education are crucial in driving economic growth, as there is still much room for improvement. Jin & Kim (2024; Mariana (2015); Mercan & Sezer (2014) highlight the positive role of education but assume a high-quality system with strong connections to the labor market. A study by Hanushek & Woessmann (2015) reinforces this view, emphasizing that the quality of education, as measured by skills and cognitive competencies, is more important for economic development than simply increasing enrollment or Mean years of schooling. Recent studies focusing on ASEAN also note that countries like Vietnam, which have made rapid progress in education reform, show a more positive correlation between education and growth. In contrast, countries like the Lao People's Democratic Republic, which struggles with resource disparities in education, see limited benefits from improving educational attainment.

The Impact Control of Corruption on Economic Growth

The impact of control of corruption on economic growth was not in line with the hypothesis, which is negative. Although conceptually corruption control is viewed as a factor that can strengthen economic growth through increased foreign investment inflows and improvements in institutional quality, the findings of this study indicate that the variable has a significant yet negative effect. In other words, greater efforts to control corruption are statistically associated with a decline in economic growth. From the perspective of the Solow (1956) growth model, technological progress is the main driver of long-term economic expansion and is typically transmitted through channels such as Foreign Direct Investment (FDI). While

corruption oversight is expected to enhance a country's attractiveness to FDI and thereby accelerate technology diffusion, these control measures may also introduce additional institutional constraints. Ultimately, this condition may amplify the adverse effects of corruption on productivity, health, and labor efficiency, as explained by (Varvarigos, 2023).

Several factors may explain why corruption control does not produce a significant positive impact on economic performance. First, improvements in corruption control generally require structural reforms and institutional transformation, the effects of which tend to materialize in the long term and may not yet be observable within the limited timeframe of the study. Second, a country may still experience economic growth despite high levels of corruption if supported by strong export sectors, abundant natural resources, or other growth-enhancing factors. Third, in some cases, informal institutions and practices may persist even when formal corruption indicators show improvement, thereby reducing the effectiveness of governance reforms. In addition, the interaction between political stability and corruption control is inherently complex. Although political stability can attract FDI, the absence of strong law enforcement and transparency mechanisms may diminish the positive impact of investment on growth. These findings underscore the importance of integrating anti-corruption strategies into a broader framework of institutional development and economic policy reform Liu & Liu (2025); Nana Djomo et al., (2024); Ramoni-Perazzi & Romero, (2022); Varvarigos (2023).

The Impact of Urban Population Growth on Economic Growth

The impact of Urban Population on economic growth was not in line with the hypothesis, which is negative. A negative coefficient indicates that increasing urban population growth actually reduces the value of the economic growth variable. This result can be interpreted as an increase in the number of people migrating to cities, or a high level of urbanization putting pressure on the economic capacity and infrastructure of urban areas. The proportion of urban populations reaching 51 percent in ASEAN countries is expected to trigger higher unemployment, traffic congestion, housing shortages, and a decline in aggregate productivity. This occurs because urban population growth is increasing rapidly relative to available public capacity. Consequently, urbanization that is not accompanied by adequate urban development planning has the potential to weaken overall economic performance. A study conducted by Kuznets (1967) emphasized that in the early stages of economic development, rapid population growth can be a constraint by increasing pressure on resources, capital, and employment opportunities, which in turn reduces per capita productivity. However, as the economy develops through capital accumulation and technological progress, population growth can actually serve as a driver of economic growth by expanding the labor force, expanding domestic markets, and stimulating innovation. Kuznets also highlighted the importance of education and health in transforming population growth into a productive asset, rather than an economic burden. Furthermore, demographic dynamics are closely related to changes in income distribution and urbanization, where demographic transition affects a country's social and economic structure. This condition tends to reduce labor productivity and ultimately slow economic growth. Furthermore, excessive urbanization often reflects not healthy industrial expansion, but rather the migration of workers from the agricultural sector to the low-productivity urban informal sector (Henderson, 2010).

6. Conclusion

The results of this study show that FDI, industry, and mean years of schooling significantly support economic growth in asean, while control of corruption and urban population growth show negative and significant effects on economic growth in the ASEAN region, which includes countries such as Indonesia, Malaysia, Singapore, Thailand, Laos, Vietnam, Cambodia, and the Philippines. These findings indicate that FDI can increase production capacity, create jobs, and

encourage economic diversification. These results provide an important foundation for ASEAN countries in formulating more effective and sustainable development strategies, with an emphasis on improving education quality, reforming the industrial sector, and optimizing the use of Foreign Direct Investment (FDI).

7. Implications of research

The findings indicate that to strengthen economic growth, ASEAN countries need to simplify regulations, enhance legal certainty, and provide incentives for FDI, particularly in strategic sectors. Strengthening government private sector collaboration is also essential to boost investor confidence. There is also a mismatch between education and labor market needs, requiring improvements in vocational training, industry-oriented skills development, and higher education quality especially in digital literacy and technical competencies. The positive contribution of the industrial sector must be supported by sustainable policies, such as energy efficient production, environmentally friendly technology, and stronger research and innovation efforts. Managing urban population growth and implementing long term structural reforms can further support economic performance, provided they are backed by strong export sectors, adequate natural resources, and consistent law enforcement. Urban planning must be better integrated with industrial and infrastructure development to mitigate the negative impacts of rapid urbanization, while anti-corruption reforms should be redesigned to reduce bureaucratic inefficiencies that currently hinder investment and growth in the ASEAN region.

8. Limitations of the study and future research

This study is limited to eight ASEAN countries due to incomplete data availability for Brunei and Myanmar over the 2009–2023 period, which may affect the generalizability of the findings. Future research should extend the dataset to include all ASEAN members, incorporate institutional variables such as policy effectiveness and technology sector contribution, and apply more advanced analytical methods to enhance the robustness of the conclusions.

Competing interests

The authors declare that there is no potential conflict of interest in this research. All data and results presented are objective and are not influenced by personal interests, institutions, or other parties.

Authors' contributions and responsibilities

The first author played a role in identifying problems, processing, and analyzing data from this research. Meanwhile, the second, third and fourth authors were in charge of data processing and corrected the writing of the research results, and the fourth author had responsibility for the discussion of the results.

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Competing interests

There are no potential conflicts of interest reported by the authors.

Data availability statement

The data that support the findings of this study are available from the corresponding

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References

- Aghion, P., & Howitt, P. (1998). *Market Structure and the Growth Process*.
- Agudze, K., & Ibhagui, O. (2021). Inflation and FDI in industrialized and developing economies. *International Review of Applied Economics*, 35(5), 749–764. <https://doi.org/10.1080/02692171.2020.1853683>
- Aloui, Z., Hamdaoui, M., & Maktouf, S. (2024). Does governance matter to ensure significant effect of foreign direct investment on poverty reduction? Evidence from developing and emerging countries. *Transnational Corporations Review*, 16(2). <https://doi.org/10.1016/j.tncr.2024.200058>
- Arbia, A., & Sobhi, K. (2024). Foreign direct investment, information and communication technology, and economic growth: The case of North African Countries. *Scientific African*, 24. <https://doi.org/10.1016/j.sciaf.2024.e02234>
- Banday, U. J., Murugan, S., & Maryam, J. (2021). Foreign direct investment, trade openness and economic growth in BRICS countries: evidences from panel data. *Transnational Corporations Review*, 13(2), 211–221. <https://doi.org/10.1080/19186444.2020.1851162>
- Bashir, A., Suhel, S., Azwardi, A., Atiyatna, D. P., Hamidi, I., & Adnan, N. (2019). The Causality Between Agriculture, Industry, and Economic Growth: Evidence from Indonesia. *ETIKONOMI*, 18(2), 155–168. <https://doi.org/10.15408/etk.v18i2.9428>
- Becker, G. S. (1993). *Human Capital A Theoretical And Empirical Analysis With Special Reference To Education Third Edition* (Third Edition). The University of Chicago Press.
- Becker, G. S. . (1975). *Human capital : a theoretical and empirical analysis, with special reference to education*. University of Chicago Press.
- Bobenič Hintošová, A., & Bódy, G. (2023). Sustainable FDI in the Digital Economy. *Sustainability (Switzerland)*, 15(14). <https://doi.org/10.3390/su151410794>
- Borensztein, E., De Gregorio, J., Lee, J.-W., Barro, R., Helpman, E., Jovanovic, B., Khan, M., Kim, S.-J., Mathieson, D., Rebelo, S., Sachs, J., & Wickham, P. (1998). How does foreign direct investment affect economic 1 growth? We are grateful for comments from. In *Journal of International Economics* (Vol. 45).
- Brown, P. (2003). The Opportunity Trap: education and employment in a global economy. In *European Educational Research Journal* (Vol. 2, Issue 1).
- Chandran, V. G. R., & Tang, C. F. (2013). The impacts of transport energy consumption, foreign direct investment and income on CO2 emissions in ASEAN-5 economies. In *Renewable and Sustainable Energy Reviews* (Vol. 24, pp. 445–453). Elsevier Ltd. <https://doi.org/10.1016/j.rser.2013.03.054>
- Claro, S., Paunesku, D., & Dweck, C. S. (2016). Growth mindset tempers the effects of poverty on academic achievement. *Proceedings of the National Academy of Sciences of the United States of America*, 113(31), 8664–8668. <https://doi.org/10.1073/pnas.1608207113>
- Cong, T. Q., & Hien, D. N. (2016). Feasibility of Cleaner Production for Vietnam Rice Processing Industry. *Procedia CIRP*, 40, 285–288. <https://doi.org/10.1016/j.procir.2016.01.122>
- Cuaresma, J. C., & Mishra, T. (2011). The role of age-structured education data for economic growth forecasts. *Journal of Forecasting*, 30(2), 249–267. <https://doi.org/10.1002/for.1171>
- Dao, T. B. T., Khuc, V. Q., Dong, M. C., & Cao, T. L. (2023). How Does Foreign Direct Investment



- Drive Employment Growth in Vietnam's Formal Economy? *Economies*, 11(11). <https://doi.org/10.3390/economies11110266>
- Dash, Dr. S. (2022). The Impact of FDI in the Indian Economy. *Interantional Journal Of Scientific Research In Engineering And Management*, 06(06). <https://doi.org/10.55041/ijrsrem14419>
- E. N., A., & O., A. (2025). Effect of Government Education Expenditure on Inclusive Growth in Nigeria: The Role of Institutions. *Asian Journal of Economics, Business and Accounting*, 25(1), 147–161. <https://doi.org/10.9734/ajeba/2025/v25i11640>
- Fazaalloh, A. M. (2024). FDI and economic growth in Indonesia: a provincial and sectoral analysis. *Journal of Economic Structures*, 13(3).
- Febriyanto, A., Azzam, A., Kutia, H. R., Rizal, A., & Yusfiarto, R. (2024). The impact of foreign direct investment on carbon emissions: A comparative study in the ASEAN countries with the highest foreign direct investment. *Innovation and Green Development*, 3(4). <https://doi.org/10.1016/j.igd.2024.100181>
- Greene, W. H. (2003). *ECONOMETRIC ANALYSIS* (5th ed.).
- Groner, T., & Moradi, A. (2024). Sacrificing sustainability for a higher GDP growth rate. *Development and Sustainability in Economics and Finance*, 2–4, 100015. <https://doi.org/10.1016/j.dsef.2024.100015>
- Gross, J., & Ouyang, Y. (2021). Types of urbanization and economic growth. *International Journal of Urban Sciences*, 25(1), 71–85. <https://doi.org/10.1080/12265934.2020.1759447>
- Habanabakize, T., & Dickason-Koekemoer, Z. (2023). The Role of Industrialization on Employment and Economic Growth in South Africa. *International Journal of Economics and Financial Issues*, 13(6), 116–123. <https://doi.org/10.32479/ijefi.15094>
- Hanushek, E., & Woessmann, L. (2015). *The Knowledge Capital of Nations: Education and the Economics of Growth*. <https://doi.org/10.7551/mitpress/9780262029179.001.0001>
- Haraguchi, N., Cheng, C. F. C., & Smeets, E. (2017). The Importance of Manufacturing in Economic Development: Has This Changed? *World Development*, 93, 293–315. <https://doi.org/10.1016/j.worlddev.2016.12.013>
- Henderson, J. V. (2010). Cities and development. *Journal of Regional Science*, 50(1), 515–540. <https://doi.org/10.1111/j.1467-9787.2009.00636.x>
- Hoi, L. Q., Thu, N. T. H., Hung, N. X., Uyen, P. T., Huong, T. T., Minh, T. T. H., & Anh, H. T. P. (2024). The impact of the Global Minimum Tax on Vietnam's foreign direct investment attraction. *Asia and the Global Economy*, 4(2). <https://doi.org/10.1016/j.aglobe.2024.100090>
- Horii, R., Kitagawa, A., & Futagami, K. (2008). Availability of higher education and long-term economic growth. *Japanese Economic Review*, 59(2), 156–177. <https://doi.org/10.1111/j.1468-5876.2007.00403.x>
- Ibitoye, O. J., Ogunoye, A. A., & Kleynhans, E. P. J. (2022). Impact of industrialisation on economic growth in Nigeria. *Journal of Economic and Financial Sciences*, 15(1). <https://doi.org/10.4102/jef.v15i1.796>
- Immurana, M., Azuug, M., Abdullahi, I., Kisseih, K. G., Mohammed, A., Boachie, M. K., & Kizhakkekara, T. J. M. (2024). Road injuries, labor productivity, and economic growth in Africa: A panel study. *Health Science Reports*, 7(9). <https://doi.org/10.1002/hsr2.2316>
- Iqbal Haidar, M. (2021). Analisis pertumbuhan ekonomi negara-negara asean. *Forum Ekonomi*, 23(3), 593–605. <http://Journal.Feb.Unmul.Ac.Id/Index.Php/Forumekonomi>
- Jackson, T. (2009). Beyond the growth economy. *Journal of Industrial Ecology*, 13(4), 487–490. <https://doi.org/10.1111/j.1530-9290.2009.00151.x>
- Jin, J. C., & Kim, D. A. (2024). Education and economic growth: Does the East Asian education fever overstate the growth effect? *Journal of Government and Economics*, 15. <https://doi.org/10.1016/j.jge.2024.100121>
- Kuo, K. C., Lu, W. M., & Le, M. H. (2020). Exploring the performance and competitiveness of Vietnam

- port industry using DEA. *Asian Journal of Shipping and Logistics*, 36(3), 136–144. <https://doi.org/10.1016/j.ajsl.2020.01.002>
- Kuznets, S. (1967). *Population Problems* (Vol. 111, Issue 3).
- Li, J., & Jin, J. (2024). Structural optimization of new media communication culture industry on the impact of digital innovation on marine economic growth. *Journal of Sea Research*, 199. <https://doi.org/10.1016/j.seares.2024.102491>
- Lim, K. F. (2012). The point is to keep going: The global sub-prime mortgage crisis, local labour market repositioning, and the capital accumulation dynamic in Singapore. *Journal of Economic Geography*, 12(3), 693–716. <https://doi.org/10.1093/jeg/lbr039>
- Lin, C. Y., Chau, K. Y., & Moslehpour, M. (2024). Bridging the gap: The nexus of sustainability innovation, knowledge sharing, and green volunteerism for manufacturing entrepreneurial triumph. *Journal of Innovation and Knowledge*, 9(4). <https://doi.org/10.1016/j.jik.2024.100570>
- Liu, B., & Liu, J. (2025). Did the integrity transition promote economic growth? Empirical research based on the perspective of anti-corruption approaches. *International Review of Economics and Finance*, 101. <https://doi.org/10.1016/j.iref.2025.104156>
- Liu, Y., Yang, M., & Cui, J. (2024). Urbanization, economic agglomeration and economic growth. *Heliyon*, 10(1). <https://doi.org/10.1016/j.heliyon.2023.e23772>
- Mariana, D. R. (2015). Education as a Determinant of the Economic Growth. The Case of Romania. *Procedia - Social and Behavioral Sciences*, 197, 404–412. <https://doi.org/10.1016/j.sbspro.2015.07.156>
- Mercan, M., & Sezer, S. (2014). The Effect of Education Expenditure on Economic Growth: The Case of Turkey. *Procedia - Social and Behavioral Sciences*, 109, 925–930. <https://doi.org/10.1016/j.sbspro.2013.12.565>
- Mussaiyib, A. M., & Pradhan, K. C. (2024). An empirical analysis of causal nexus between higher education and economic growth in BRICS countries. *Transnational Corporations Review*, 16(3). <https://doi.org/10.1016/j.tncr.2024.200057>
- Na, K., & Kang, Y. H. (2019). Relations between innovation and firm performance of manufacturing firms in Southeast Asian emerging markets: Empirical evidence from Indonesia, Malaysia, and Vietnam. *Journal of Open Innovation: Technology, Market, and Complexity*, 5(4). <https://doi.org/10.3390/joitmc5040098>
- Nana Djomo, J. M., Nguena, C.-L., & Nguimatsia Nguena, H. (2024). Is corruption useful in a context of weak democracy? Revisiting the relationship between financial development and economic growth in sub-Saharan Africa. *Journal of Economic Criminology*, 6, 100105. <https://doi.org/10.1016/j.jeconc.2024.100105>
- Ndiaya, C., & Lv, K. (2018). Role of Industrialization on Economic Growth: The Experience of Senegal (1960–2017). *American Journal of Industrial and Business Management*, 08(10), 2072–2085. <https://doi.org/10.4236/ajibm.2018.810137>
- Ngoc, N. B., Xuan, V. N., & Huong, L. M. (2024). Nexus between carbon dioxide emissions, population, migration, foreign direct investment, and gross domestic product: New evidence in the context of Vietnam. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(2). <https://doi.org/10.1016/j.joitmc.2024.100281>
- Nguyen, H. M., & Nguyen, L. D. (2018). The relationship between urbanization and economic growth an empirical study on ASEAN countries. *International Journal of Social Economics*, 45(2), 316–339. <https://doi.org/10.1108/IJSE-12-2016-0358>
- Nguyen, M. L. T. (2022). Foreign direct investment and economic growth: The role of financial development. *Cogent Business and Management*, 9(1). <https://doi.org/10.1080/23311975.2022.2127193>
- Nguyen, T. T., Ghaderi, H., Caesar, L. D., & Cahoon, S. (2014). Current Challenges in the Recruitment and Retention of Seafarers Current Challenges in the Recruitment and Retention of Seafarers:

- An Industry Perspective from Vietnam *. *The Asian Journal Of Shipping and Logistics*, 30(2).
- Oh, J. H., & Mah, J. S. (2017). The Patterns of Korea's Foreign Direct Investment in Vietnam. *Open Journal of Business and Management*, 05(02), 253–271. <https://doi.org/10.4236/ojbm.2017.52023>
- Phillips, G. C., & Collin, G. B. (1979). In Vitro Tissue Culture of Selected Legumes and Plant Regeneration from Callus Cultures of Red Clover. *Crop Science*, 19.
- Prastity, N., & Cahyadin, M. (2015). The Effect Of Foreign Direct Investment And Trade Openness On Economic Growth In Organisation Of Islamic Conference (OIC) Member Countries In 2000-2013. *Kajian*, 20(3). www.sesrtic.org,
- Putri, P., Sumanto, A., & Rahmawati, F. (2023). Analysis of the Effect of Manufacturing Industry on Indonesia's Economic Growth. *Journal of Business Management and Economic Development*, 1(02), 342–354. <https://doi.org/10.59653/jbmed.v1i02.151>
- Raihan, A., Hasan, M. A., Voumik, L. C., Pattak, D. C., Akter, S., & Ridwan, M. (2024). Sustainability in Vietnam: Examining economic growth, energy, innovation, agriculture, and forests' impact on CO2 emissions. *World Development Sustainability*, 4. <https://doi.org/10.1016/j.wds.2024.100164>
- Rammal, H. G., & Zurbrugg, R. (2006). The impact of regulatory quality on intra-foreign direct investment flows in the ASEAN markets. *International Business Review*, 15(4), 401–414. <https://doi.org/10.1016/j.ibusrev.2006.05.001>
- Ramoni-Perazzi, J., & Romero, H. (2022). Exchange rate volatility, corruption, and economic growth. *Heliyon*, 8(12). <https://doi.org/10.1016/j.heliyon.2022.e12328>
- Rodrik, D. (2016). Premature deindustrialization. *Journal of Economic Growth*, 21(1), 1–33. <https://doi.org/10.1007/s10887-015-9122-3>
- Romer, P. M. (1990). *Endogenous Technological Change*. <http://www.journals.uchicago.edu/t-and-c>
- Saidi, Y., & Ochi, A. (2023). Estimating relationships among foreign direct investment, governance quality, and economic growth in developing countries using the threshold auto-regressive model. *Regional Science Policy and Practice*, 15(2), 403–424. <https://doi.org/10.1111/rsp3.12654>
- Sheldon, P., & Kwon, S.-H. (2023). Samsung in Vietnam: FDI, Business–Government Relations, Industrial Parks, and Skills Shortages. *The Economic and Labour Relations Review*, 1(34). <https://doi.org/10.1787/fb37254b-en>
- Smith, A. (2005). *An Inquiry Into The Nature And Causes Of The Wealth Of Nations*.
- Solow, R. M. (1956). A Contribution to the Theory of Economic Growth. In *Source: The Quarterly Journal of Economics* (Vol. 70, Issue 1).
- Sultana, T., Dey, S. R., & Tareque, M. (2022). Exploring the linkage between human capital and economic growth: A look at 141 developing and developed countries. *Economic Systems*, 46(3). <https://doi.org/10.1016/j.ecosys.2022.101017>
- Thangavelu, S. M., & Narjoko, D. (2014). Human capital, FTAs and foreign direct investment flows into ASEAN. *Journal of Asian Economics*, 35, 65–76. <https://doi.org/10.1016/j.asieco.2014.11.002>
- Thao Huong, L., & Nguyen. (2022). *Impacts of Foreign Direct Investment on Economic growth in Vietnam*.
- Triatmanto, B., Bawono, S., & Wahyuni, N. (2023). The contribution and influence of total external debt, FDI, and HCI on economic growth in Indonesia, Thailand, Vietnam, and Philippines. *Research in Globalization*, 7. <https://doi.org/10.1016/j.resglo.2023.100163>
- Varvarigos, D. (2023). Cultural persistence in corruption, economic growth, and the environment. *Journal of Economic Dynamics and Control*, 147. <https://doi.org/10.1016/j.jedc.2022.104590>
- Vo, D. H., Pham, T. N., Pham, T. T. V., Truong, L. M., & Cong Nguyen, T. (2019). Risk, return and portfolio optimization for various industries in the ASEAN region. *Borsa Istanbul Review*, 19(2), 132–138. <https://doi.org/10.1016/j.bir.2018.09.003>

- Wooldridge, J. M. (2013). *Introductory Econometrics: A Modern Approach* (5th ed.). South-Western.
- Yue, C. S. (1996). ASEAN Strategies on Foreign Direct Investment and Prospects for ASEAN-India Investment. *Journal Of Asian Economics*, 7(4).
- Zhao, W. (2024). The Role of Education Quality in Economic Growth. In *Business, Economics and Management EMFRM* (Vol. 2024).
- Zouine, M., el adnani, M. J., & salhi, S. eddine. (2024). Does higher education matter in mitigating chronic disease Mortality? evidence from MENA countries with consideration of Globalization, economic Growth, and environmental pollution. *Research in Globalization*, 9. <https://doi.org/10.1016/j.resglo.2024.100236>