

Evaluating the Impact of Remittance Flows, Financial Inclusion, and Macroeconomic Reserves on ASEAN-7 Economies

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ABSTRACT

This study investigates the impact of remittances, domestic credit, export growth, consumer price index, and foreign exchange reserves on economic growth. Using annual data from the World Bank for the period 2014–2023, this study employs a fixed-effects panel data model approach and performs robust checks using FGLS to ensure robust and efficient panel data regression analysis. Empirical results indicate that remittances, domestic credit, export growth, and foreign exchange reserves are positive and statistically significant contributors to economic growth in the ASEAN region. Specifically, the findings highlight that a developed financial system enhances the growth-promoting effect of remittances by efficiently channeling capital into productive investment. In contrast, the consumer price index was found to have no significant direct impact on economic growth in this model, suggesting that moderate inflation serves more as a factor supporting macroeconomic stability than as a primary driver of real output. These findings highlight the importance of policymakers facilitating formal remittance management and expanding credit access for micro, small, and medium enterprises to stimulate innovation and employment. Furthermore, the study recommends prioritizing export-oriented industrialization and maintaining adequate foreign exchange reserves to strengthen regional economic resilience to global financial volatility.

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1. INTRODUCTION

Economic growth plays a crucial role in shaping national development outcomes, as macroeconomic outcomes processes that are essential for sustainable development trajectories (Sein & Rehman, 2025). According to Setyowati & Khoirudin (2022) the regional growth rate serves as a primary metric for evaluating the efficacy of economic development strategies. Sustained national development is predicated on achieving high levels of economic growth. A comprehensive indicator for measuring this economic activity, encompassing national income and consumption across all households and economic units, is gross domestic product (Sumiyana, 2020). Analyzing these growth trajectories is essential for grasping the broader developmental path of these nations (Cervellati et al., 2023). Indeed, economic growth remains a pivotal indicator of developmental success within both individual member states and the collective ASEAN region (Mariska et al., 2021). Maintaining openness to international trade and strengthening regional cooperation are crucial for ASEAN countries, as trade engagement positively contributes to GDP growth and economic integration (Anwar et al., 2024).

Economic integration, catalyzed by the 2014 ASEAN Economic Community (AEC) initiative, has significantly driven growth in the service sectors, including finance, information technology, and tourism (Chowdhury et al., 2022). During this decade, ASEAN countries experienced significant changes in demographic structure, with an increasing number of migrant workers contributing to remittance flows. Over the past decade, ASEAN has also undergone substantial demographic shifts, with a rising number of migrant workers contributing to vital remittance flows. Furthermore, the rapid emergence of financial technology (fintech) has revolutionized access to credit and financial services, potentially altering the

interplay between remittances, financial development, and GDP. While growth was robust, the COVID-19 pandemic caused a notable decline in GDP in 2020. These pandemic conditions restricted economic activity, reduced purchasing power, and increased the risk of systemic unemployment. Empirical evidence indicates that the COVID-19 outbreak significantly disrupted economic activity in many developing countries, leading to declines in GDP growth and associated labor market pressures due to reduced consumption and investment (Takyi, 2023). Comparative analysis reveals that Indonesia consistently maintains the highest GDP in the region. This dominance is attributed to its vast territory, which facilitates a robust industrial sector and diverse economic activities. Furthermore, Indonesia's abundance of natural resources plays an important role in supporting economic growth in the ASEAN region (Rusiadi, 2024). Conversely, countries like Brunei Darussalam exhibit lower GDP levels relative to their peers. Brunei's heavy reliance on the oil and gas sector has limited diversification into other industries, hindering its GDP's competitiveness within the ASEAN framework.

International migration is frequently analyzed using neoclassical economic frameworks that conceptualize migration decisions as rational choices based on expected income differentials between origin and destination countries, influencing labor mobility under globalization (Park et al., 2024). In this context, remittances sent by migrant workers serve as a critical link between international migration and economic growth. These flows constitute a significant income source for many ASEAN nations, directly influencing consumption, investment, and overall growth (Ukhtiyani & Indartono, 2020). As a vital component of international finance, remittances align with the Solow-Swan growth model, which posits that such inflows stimulate growth by facilitating investment and augmenting national savings (Meyer & Shera, 2017). Empirical evidence shows that migrant remittances positively affect education and health outcomes as part of broader economic development in developing economies, supporting their role in enhancing human capital and long-term growth prospects (Khan, 2025). Given that ASEAN is one of the largest global sources of immigrants, these remittances exert a positive impact on GDP and play a crucial role in shaping monetary policy, particularly within developing economies (Tangtipongkul & Khiev, 2019; Dhakal & Paudel, 2023).

Financial institutions play a pivotal role in economic expansion; financial development, as reflected by credit availability, facilitates access to resources for both communities and businesses, thereby driving investment and growth. As King & Levine (1993) argued, the banking system is a fundamental driver of economic progress because of its role in allocating savings, fostering innovation, and funding productive investments. Furthermore, Bezemer (2014) the integration of novel production methods with credit facilities serves as a core engine of development, highlighting the critical nature of innovation. Consequently, entrepreneurship necessitates access to credit, typically secured through formal banking channels. King & Levine (1993) empirical evidence supports this, showing that credit is positively correlated with economic development. The strategic focus on microcredit is instrumental in enhancing financial inclusion, particularly by expanding access for the impoverished and supporting broader growth (Bank of International Settlements). When credit accessibility improves, both investment and consumption tend to increase, as individuals and businesses can more easily secure financing. This enhanced access allows populations to enjoy greater financial stability and increased life satisfaction (Purwono et al., 2020). While study by Ibrahim & Alagidede (2018) found that the relationship between financial development and economic growth is generally positive, it must be synchronized with growth in the real sector to effectively mitigate potential systemic risks.

Theoretically, the role of remittances in economic growth can be explained through the approaches of neoclassical growth theory and financial development theory. Within the Solow-Swan framework, remittances function as a source of capital accumulation that augments savings and investment, thereby driving medium- to long-term output growth. However, financial development theory emphasizes that the effectiveness of remittances is highly contingent upon the sophistication of the domestic financial sector. An efficient financial sector acts as an intermediary, channeling these flows into productive investments via credit, savings, and business financing mechanisms (Giuliano & Ruiz-Arranz, 2009). International cooperation among ASEAN nations is further evidenced by export activities, which significantly influence trade by augmenting production. According to Adam Smith's concept of absolute advantage, nations benefit by specializing in goods where they possess superior productivity. Under this framework, countries export goods they produce efficiently and import those they cannot (Salvatore, 2019). Although this theory

has limitations in explaining modern industrialized trade, David Ricardo's theory of comparative advantage provides further clarity: international trade arises from relative productivity differences, enabling mutually beneficial. By producing goods at a lower relative cost than competitors, countries can specialize in large-scale production. Increased export activities not only contribute to foreign exchange earnings but also significantly boost job creation (Taşdemir et al., 2023). Empirical evidence from Asian developing economies suggests that export activity and related trade dynamics are positively associated with economic growth, reflecting how export performance can stimulate output expansion through foreign exchange earnings, employment, and production capacity increases (Sarker, 2024).

Assessing fluctuations in the prices of goods and services is essential for gauging inflationary trends, which are typically measured via the consumer price index (CPI). Mankiw (2006) stated high inflation instability can create significant uncertainty and erode the purchasing power of the general public. This dynamic is often explained by Keynesian Demand-Pull Theory, which posits that when demand exceeds production capacity in the short term, prices appreciate. However, in the long term, a new equilibrium is established as production capacity adjusts, eventually stabilizing inflation. Under certain conditions, inflation can actually stimulate economic growth when aligned with strategic monetary policy (Todaro & Smith, 2012). By increasing aggregate demand and production, inflation can boost overall economic activity. By increasing aggregate demand and production, inflation can boost overall economic activity. For instance, expansionary monetary measures, such as lowering interest rates or increasing the money supply, enhance loanable funds. When interest rates fall, private investment typically rises, leading to increased GDP and employment opportunities (Todaro & Smith, 2012). Conversely, a study by Hidhiir et al. (2024) Empirical panel evidence from ASEAN-5 countries finds that inflation has a significant detrimental effect on economic growth, underscoring how price instability can impede economic performance across the region. Furthermore, foreign exchange reserves serve as vital liquid assets and a cornerstone of national economic prowess (Salvatore, 2019). Study by Krušković (2023) Empirical evidence from emerging economies suggests that foreign exchange reserves growth is associated with higher economic growth, as shown in a VAR analysis of BRIC countries.

Despite existing literature on the impact of remittances and financial development in the ASEAN region, most studies analyze these variables in isolation and fail to integrate them into a comprehensive framework that accounts for macroeconomic stability. Furthermore, cross-country studies utilizing post-COVID-19 data that simultaneously examine remittances, credit, export growth, inflation, and foreign exchange reserves remain limited (Chowdhury et al., 2022; and Dhakal & Paudel, 2023). Therefore, the novelty of this study lies in its integrated approach, which simultaneously analyzes the roles of remittances and financial development (credit) on GDP while incorporating key macroeconomic variables as supporting factors for seven ASEAN countries during the 2014–2023 period. The primary objective of this study is to identify and analyze the influence of remittances, credit, export growth, the CPI, and foreign exchange reserves on economic growth within the ASEAN region. This article is systematically structured as follows: the first section presents the introduction and theoretical basis, the second section explains the study method, the third section discusses the empirical results and analysis, and the final section presents the conclusions and policy implications.

2. RESEARCH METHODS

2.1. Data

This study adopts a quantitative study design, utilizing annual secondary data in numerical form for the period 2014–2023. The dataset is sourced from international financial institutions, specifically the World Development Indicator (WDI) Database from World Bank. The primary objective is to analyze the relationship between the endogenous variable is GDP, and several exogenous variables such as remittances, credit, export growth, consumer price index (CPI), and foreign exchange reserves. The scope of the study covers seven ASEAN member states such as Brunei Darussalam, Indonesia, Philippines, Thailand, Malaysia, Singapore, and Vietnam. Data analysis is performed using EViews software to execute panel data regression. The variables employed in this empirical analysis are detailed in Table 1 as follow.

Table 1. Research Variables

Variables	Indicator	Unit	Source
GDP in natural logarithm (lnGDP)	GDP (constant, 2015)	USD	WDI
Remittances (lnREM)	Personal remittances, received	USD	WDI
Credit (lnCredit)	Domestic credit provided by financial sector	USD	WDI
Export growth (lnExpGrowth)	Exports of goods and services (annual % growth)	Percent	WDI
Consumer price index (CPI)	Consumer price index (2010 = 100)	Index	WDI
Foreign exchange reserves (lnFER)	Total reserves (includes gold, current US\$)	USD	WDI

2.2. Model Specification

This study utilizes a panel data model with a fixed effect model (FE) approach, which allows for a more granular analysis of inter-country and inter-temporal variations across the seven ASEAN nations during the period 2014–2023. The FE is particularly adept at controlling for unobserved heterogeneity, factors that remain constant within each country but may influence GDP, such as institutional quality, fiscal policy frameworks, or structural economic characteristics. Thus, the FE provides more consistent estimates when individual effects are correlated with the independent variables. Given the relatively short time dimension ($T = 10$) and the application of a static panel data model, panel unit root tests are not strictly required. According to Baltagi (2021), in short panels, FE estimation remains consistent even if variables exhibit limited non-stationarity. Furthermore, the use of panel data enhances statistical efficiency by increasing the number of observations and enabling the simultaneous capture of temporal dynamics and cross-country differences. To estimate the relationships, the study employs the following econometric model:

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln REM_{it} + \beta_2 \ln Credit_{it} + \beta_3 \ln ExpGrowth_{it} + \beta_4 CPI_{it} + \beta_5 \ln FER_{it} + \varepsilon_{it} \quad (1)$$

Here, β_0 is the constant term; β_1 until β_5 are the coefficient values for each independent variable; i denotes the country; t signifies the time period; and ε_{it} is the error term representing variables outside the model.

To capture a more comprehensive relationship between remittances, financial development, and economic growth, this study includes an interaction term between remittances and financial development (credit) in the empirical model. This approach is based on the premise that the growth-inducing impact of remittances is heavily contingent upon the level of financial sector development, particularly the system's capacity to channel these flows into productive activities (Giuliano & Ruiz-Arranz, 2009; and Chowdhury et al., 2022). Consequently, remittances are expected to exert a more profound effect on growth when supported by an advanced financial system and adequate credit access.

To ensure the reliability of the results, the study estimates robust standard errors or employs a weighted feasible generalized least squares (FGLS) model. This explicitly accounts for the variance-covariance structure of the errors by weighting observations based on the estimated error covariance matrix. Bai et al. (2021) stated that the FGLS estimator provides a more efficient alternative to OLS in the presence of heteroscedasticity, autocorrelation, and cross-unit correlation, thereby increasing the precision of the statistical inferences.

3. RESULTS AND DISCUSSION

3.1. Result

Descriptive statistics provide a comprehensive overview of the characteristics of the research objects through the analysis of sample or population data. This statistical summary encompasses measures of central tendency, such as the mean and median, alongside measures of dispersion and distribution, including standard deviation, maximum and minimum values, kurtosis, and skewness. The summary results for the variables used in this study are presented in Table 2 as follows.

Table 2. Results of Descriptive Statistics

Variables	Obs.	Mean	Min	Max	Std. Deviation
lnGDP	70	11.429	10.056	12.137	0.560
lnREM	70	9.166	5.819	10.592	1.446
lnCredit	70	13.145	9.629	16.101	2.042
lnExpGrowth	70	1.765	1.238	2.238	0.292
CPI	70	2.179	-1.260	6.390	1.980
lnFER	70	10.893	9.527	11.628	0.581

The descriptive statistics in Table 2 reveal that the GDP variable, consisting of 70 observations, has a mean value of 11.429 and a standard deviation of 0.560. Notably, Indonesia recorded the highest GDP in 2023, reaching USD.27.946 billion, while Brunei Darussalam recorded the lowest in 2016 at USD.23.156 billion. Regarding remittances, the Philippines reached a peak of USD.39.096 billion in 2023, whereas Brunei Darussalam recorded the minimum of USD.660,300 in 2015. The remittance variable maintains a mean of 9.166 with a standard deviation of 1.446 across 70 observations. Additionally, the credit variable exhibits significant heterogeneity, as evidenced by a mean value of 13.145, which is notably higher than its standard deviation of 2.042. Vietnam recorded the highest credit volume at USD.12.634 billion in 2023, while Brunei Darussalam registered the lowest at USD.4.259 billion in 2022. In terms of export growth, the highest rate was observed in Singapore in 2014 at 9.862%, while the lowest was recorded in Indonesia in 2020 at 7.457%, coinciding with the pandemic-induced global slowdown. This variable has a mean of 1.765 and a standard deviation of 0.292. The CPI shows a mean of 2.179 and a standard deviation of 1.980. Indonesia experienced the highest CPI of 6.390 in 2014, while Brunei Darussalam recorded the lowest rate of -1.260 in 2017. Finally, foreign exchange reserves averaged 10.893 with a standard deviation of 0.581. Singapore held the highest reserves in 2021, totaling USD.26.775 billion, while Brunei Darussalam maintained the lowest reserves in the same year at USD.21.937 billion.

Table 3. Results of Pair-Wise Correlation

Variables	lnREM	lnCredit	lnExpGrowth	CPI	lnFER
lnREM	1.000	-	-	-	-
lnCredit	0.796	1.000	-	-	-
lnExpGrowth	-0.342	-0.371	1.000	-	-
CPI	0.434	0.445	-0.314	1.000	-
lnFER	0.746	0.468	0.134	0.086	1.000

Table 3 report the pair-wise correlation was conducted to detect potential multicollinearity issues between independent variables. The correlation coefficients between all independent variables are below the threshold of 0.85. This indicates the absence of significant multicollinearity, suggesting that each independent variable provides distinct information to the model.

To determine the most appropriate model for this dataset, several diagnostic tests were conducted, including the Chow test and the Hausman test (Baltagi, 2021). The results of the panel data model selection test, it can be concluded that the FE model is the most appropriate estimation model used in this study. The Chow test results show a cross-section chi-square p -value of 0.000 which is smaller than the 5% significance level, thus rejecting the null hypothesis and indicating that the pooled OLS model is not appropriate, and the FE model is better able to capture differences in characteristics between ASEAN countries. Furthermore, the Hausman test results also strengthen these findings with a p -value of 0.000, which indicates that the random effect estimation is inconsistent due to the correlation between individual effects and independent variables in the model. Thus, the use of the FE model is considered most appropriate because it is able to control unobserved heterogeneity that is time-invariant, such as differences in economic structure, institutions, and policies between ASEAN countries, thus producing more consistent and reliable estimates in analyzing the influence of remittances, financial development, and macroeconomic variables on economic growth.

To assess the homoscedasticity of the residuals, the Glejser test was performed. The Glejser test results indicate that the probability values for all independent variables exceed the 0.05 significance threshold (Table

4). Consequently, it can be concluded that the model does not suffer from heteroscedasticity issues. Additionally, the Jarque-Bera test was employed to assess the normality of the residual data distribution. As shown in Table 4, the Jarque-Bera test yielded a probability value of 0.150. Since this value exceeds the 0.05 significance level, it confirms that the residuals follow a normal distribution. Table 4 also report the Pesaran CD test was utilized to determine whether residuals are independent across the different countries in the panel. The Pesaran CD statistic of 0.597, coupled with a p-value of 0.550, suggests that the null hypothesis of cross-sectional independence cannot be rejected. This indicates that the residuals between countries are independent.

Table 4. Result of Empirical Model Estimation

Dependent Variable: <i>lnGDP</i>		
Variables	FE (1)	FGLS (2)
Constant	3.175*** (0.582)	3.326*** (0.387)
lnREM	0.274*** (0.095)	0.293*** (0.071)
lnCredit	0.319*** (0.051)	0.322*** (0.037)
lnExpGrowth	0.290*** (0.090)	0.198*** (0.076)
CPI	0.001 (0.002)	-0.001 (0.002)
lnFER	0.095 (0.060)	0.076*** (0.036)
F-Statistic	23.407	14.866
Prob.(F-Stat)	0.000	0.000
R ²	0.997	0.996
Selected method		
Chow test	25.960***	
Hausman test	52.549***	
Diagnostic test		
Jarque-Bera	χ^2 3.791	p-value 0.150
Glejser	0.156	0.698
Pesaran CD	0.597	0.550

Note: ***indicate the level of statistical significance at 1%

The results reveal a constant value of 3.175, implying that economic growth remains at this level when all other factors are held constant. The findings in the FE model indicate that the variables of remittances, credit, and export growth show a significant positive influence on economic growth in ASEAN-7 countries. Specifically, a 1% increase in remittances will increase economic growth by 0.274%, followed by a 1% increase in credit will increase economic growth by 0.319%, and also a 1% increase in export growth will increase economic growth by 0.290%. In contrast, CPI and foreign exchange reserves do not significantly affect economic growth in this model. The F statistic of 23.407 ($p=0.000$) confirms that exogenous variables collectively have a significant impact on economic growth. The R² value of 0.997 indicates that 99.7% of GDP variance is explained by the model.

To address potential issues of heteroscedasticity and autocorrelation that may remain in a standard panel model, this study employs the feasible generalized least squares (FGLS) approach. This method provides more efficient and reliable estimates by explicitly adjusting for the variance-covariance structure of the errors as in the findings presented in Table 4. The robust check using FGLS shows that the constant value is positive and significant, indicating that when all exogenous variables are held constant (*ceteris paribus*), the baseline GDP still grows by 3.326%. Based on this robust FGLS estimate, four variables, namely remittances, credit, export growth, and foreign exchange reserves, have positive and significant signs on economic growth. This implies that when remittances increase by 1%, economic growth will increase by 0.293%, while credit shows the strongest impact, with a 1% increase in credit

from financial institutions increasing economic growth by 0.322%. Export growth and foreign exchange reserves are also significant positive contributors, implying that a 1% increase in export growth and foreign exchange reserves will increase economic growth by 0.198% and 0.076%, respectively. In contrast, the CPI remains statistically insignificant, indicating that inflation does not have a direct impact on economic growth in the model and the study period. The model is collectively confirmed by an F statistic of 14.866 ($p=0.000$), which confirms that exogenous variables collectively influence economic growth in the seven ASEAN countries. The R^2 value of 0.996 indicates that 99.6% of the GDP variation is explained by this research model, leaving only 0.04% explained by factors outside the scope of the study. The choice of the FGLS approach is justified by its ability to account for inhomogeneous and correlated error structures, which enhances the validity of the test statistic relative to the unadjusted FE method. Consequently, these findings provide a more rigorous basis for analyzing the interactions between financial inflows, domestic credit, and macroeconomic stability in the ASEAN-7 region.

3.2. Discussion

Remittances exert a positive and significant impact on economic growth across the seven ASEAN countries studied. This finding aligns with the study by Meyer & Shera (2017), which demonstrated that remittances significantly bolster economic growth in high-remittance countries, such as Albania, Macedonia, Romania, and Bosnia-Herzegovina, using panel data analysis. Remittances represent capital transfers from migrant workers employed abroad to their home countries (Dhakal & Paudel, 2023). For instance, Filipino migrant workers in the United States, Saudi Arabia, and Singapore remit a significant portion of their earnings, which directly increases the home country's foreign exchange inflows. As remittance volumes grow, the disposable income of recipient households increases, enabling them to finance essential services such as education and healthcare or to develop small-scale businesses. This transition not only enhances the quality of life and reduces poverty but also improves the long-term quality of human capital. While the impact of remittances is partly determined by household consumption patterns, empirical evidence suggests that a portion of these funds is saved and invested, thereby contributing to long-term economic expansion (Makun, 2018). Furthermore, remittances enhance capital allocation, promote financial development, and serve as a stabilizing force for monetary policy in developing economies (Tangtipongkul & Khiev, 2019; and Giuliano & Ruiz-arranz, 2009). In economies with limited industrial diversification, remittances function as a crucial alternative source of foreign exchange and stimulate domestic demand through multiplier effects. By strengthening the balance of payments and increasing liquidity within the financial system, these inflows facilitate credit expansion and productive capital formation (Tangtipongkul & Khiev, 2019; and Giuliano & Ruiz-arranz, 2009). Consequently, remittances are more than mere short-term transfers; they act as strategic instruments for financial deepening and long-term economic resilience. In accordance with Williams (2024) also found empirical evidence indicates that remittance inflows significantly enhance education and health outcomes and support long-term economic growth by improving household welfare and human capital development.

Domestic credit, serving as a proxy for financial development, has a positive and significant effect on GDP in the seven ASEAN countries. This result supports the findings of Millah & Wibowo (2021), whose panel study indicated a positive correlation between financial development and economic growth in four ASEAN member states. Theoretically, the credit channeled by financial institutions to both the private and public sectors stimulates growth by fostering entrepreneurship and investment. Facilitating access to credit allows individuals and businesses to secure the funds necessary for consumption, business expansion, and capital investment. When credit accessibility improves, the resulting increase in investment and consumption drives aggregate demand. Easy access to finance enables populations to enjoy greater financial stability and an improved quality of life (Purwono et al., 2020). Furthermore, a study by Sipahutar (2018), as bank credit expands, it spurs the development of the real sector and increases the operational scale of local businesses. Prochniak & Wasiak (2017) in the short term, credit-led investment increases national output, while in the long term, it augments the stock of physical capital and stimulates sustained demand. This is consistent with a study by Irzam & Setyari (2020), which identified bank credit as a primary driver of domestic product growth in Indonesia. The strong and significant relationship between credit and economic growth also indicates that the efficiency and depth of the financial system play a crucial role in channeling funds toward productive sectors. In ASEAN economies, the expansion of credit availability not

only supports capital accumulation but also enhances financial inclusion by enabling micro, small, and medium enterprises (MSMEs) to access financing that stimulates innovation and job creation. Moreover, well-developed credit markets can improve the transmission of monetary policy, thereby amplifying the effectiveness of fiscal and monetary coordination in promoting sustainable economic growth. However, this positive linkage also depends on the soundness of credit allocation; excessive or poorly targeted lending may lead to inefficiencies or financial instability. Therefore, strengthening financial regulation and ensuring that credit flows into productive investments are essential for maintaining the long-term growth benefits of financial development across ASEAN countries.

Export growth exerts a significant positive influence on GDP, reflecting the vital role of international trade in the region. Exports involve the outflow of domestic products to international markets, a process governed by state-regulated procedures intended to generate national profit. Since exported goods are typically sold at higher prices abroad than in domestic markets, they provide substantial incentives for producers and significantly increase a nation's foreign exchange earnings. These findings align with the "Export-Led Growth Hypothesis," which suggests that expanding exports increases foreign demand for domestic goods and services, expands production capacity, and facilitates capital accumulation. Recent empirical evidence indicates that export activity has a significant positive effect on economic growth across several ASEAN economies, with panel data analysis showing that exports contribute positively to GDP in the region (Anwar et al., 2024). By generating foreign exchange and fostering a trade surplus, export growth strengthens the overall financial resources of the government and bolsters long-term economic development (Suripto et al., 2025).

The analysis indicates that the consumer price index does not have a statistically significant effect on economic growth in the seven ASEAN countries studied. This suggests that consumer price fluctuations alone are insufficient to explain variations in real economic output when other macroeconomic factors are considered. Study by Maulana & Suprapti (2025) research also states that inflation, as measured by the CPI, does not show a statistically significant effect on GDP growth, indicating that consumer price fluctuations are not strong enough to explain variations in real output when controlled by other macro factors in a panel model. Although inflation can theoretically have an effect, its impact is often insignificant in panel GDP regressions. This result is consistent with the findings of Pappas & Boukas (2025), argued that dominant factors such as investment, consumption, and structural policies often overshadow the influence of inflation in multivariate panel models. The insignificance of the CPI may also reflect that temporary price movements, often driven by global commodity price volatility, do not necessarily alter the fundamental productive capacity of a domestic economy. Consequently, while inflation can theoretically impact growth, recent empirical evidence from the ASEAN region suggests that technology, capital, and labor play a far more decisive role in determining long-term GDP movements than the CPI alone.

Foreign exchange reserves have a positive and significant impact on GDP, serving as a cornerstone of economic stability and national strength. These liquid assets are essential for facilitating international transactions, stabilizing the domestic currency, and maintaining a healthy balance of payments. These results are consistent with a study by Saraan et al. (2023), highlighting that adequate reserves bolster investor confidence and encourage long-term economic expansion through increased foreign capital inflows. A country's foreign exchange reserves are very important in facilitating international trade transactions such as exports, imports, and capital flows because they provide the foreign currency liquidity necessary to settle external transactions and buffer economic shocks (Thabana & Fasanya, 2024). High foreign exchange reserves can increase a country's capacity to conduct international transactions and contribute to strengthening the domestic currency's value (Saadaoui, 2024). The level of foreign exchange reserves is an important indicator of economic stability and strength, acting as a buffer that helps stabilize exchange rates and absorb external shocks in turbulent economic conditions (Saadaoui, 2024). Adequate foreign exchange reserves can strengthen economic stability, reduce exchange rate volatility, and signal macroeconomic resilience to international investors, thereby enhancing investor confidence and supporting cross-border capital flows, including foreign direct and portfolio investment (Peng et al., 2024). A stable exchange rate can increase foreign direct investment as investors are more confident in predicting their returns. For the government's perspective, it can also be useful to conduct a more flexible monetary policy. Khan et al. (2015) discovered a significant positive relationship between foreign exchange reserves and economic growth in Pakistan. In trade-dependent nations like those in ASEAN, foreign exchange

reserves act as a vital liquidity buffer against global financial turbulence. By mitigating capital flight and stabilizing exchange rates, these reserves reduce the country risk premium and the cost of foreign borrowing. This stability creates a favorable environment for sustainable capital inflows and allows for more flexible monetary policy, ultimately reinforcing the resilience of ASEAN economies against global uncertainty. Beyond their function as a liquidity buffer, foreign exchange reserves serve as a vital macroeconomic instrument that underpins financial stability and encourages sustainable investment.

4. CONCLUSIONS

This study analyzed the impact of remittances, credit domestic, the export growth, the consumer price index, and foreign exchange reserves on the economic growth of seven ASEAN countries (Brunei Darussalam, Indonesia, Philippines, Thailand, Malaysia, Singapore, and Vietnam) over the period 2014–2023. Utilizing a robust panel data regression framework, specifically the feasible generalized least squares, the empirical results indicate that remittances, domestic credit, export growth, and foreign exchange reserves exert a positive and statistically significant influence on economic growth within the region. Conversely, the consumer price index was found to have no significant effect on economic growth, suggesting that moderate price fluctuations do not directly drive real output variations in these economies when other macroeconomic factors are controlled. The positive significance of remittances underscores their role as a vital source of international finance that bolsters household income and facilitates human capital investment. Similarly, the significant impact of credit confirms that financial development, through the efficient allocation of savings to productive sectors, is a fundamental engine of ASEAN's economic expansion. Furthermore, the findings regarding export growth and foreign exchange reserves highlight the critical importance of trade-led growth and macroeconomic stability in maintaining regional economic resilience.

Several policy recommendations are proposed to foster sustainable economic growth in the ASEAN region: (1) Prioritize export-oriented strategies by providing trade incentives, strengthening logistics infrastructure, and promoting export-oriented industrialization to increase competitiveness and expand access to international markets; (2) increasing financial inclusion and access to credit through strengthening financial regulations is crucial to ensure that credit flows are directed towards productive investments and not speculative activities, thereby maintaining long-term financial stability; (3) utilizing remittances for development by implementing policies that encourage the formal distribution of remittances and provide incentives to recipient households to allocate these funds to strategic sectors such as education, health, and small business development; (4) maintaining strong foreign exchange reserves to protect against global financial turmoil, the central bank must continue to hold adequate reserves to stabilize the exchange rate and increase investor confidence; and (5) focusing on macroeconomic stability, because the CPI plays a role more as a factor supporting stability than a direct driver of growth, inflation control must aim to maintain purchasing power without hampering production capacity or investment activities.

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REFERENCES

- Anwar, A., Mifrahi, M. N., & Kusairee, M. A. B. Z. A. (2024). International Trade and Economic Growth in ASEAN. *Jurnal Kebijakan Ekonomi dan Keuangan*, 3(1), 109–115. <https://doi.org/10.20885/JKEK.vol3.iss1.art14>
- Bai, J., Choi, S. H., & Liao, Y. (2021). Feasible Generalized Least Squares for Panel Data with Cross-sectional and

- Serial Correlations. *Empirical Economics*, 60, 309-326. <https://doi.org/10.1007/s00181-020-01977-2>
- Baltagi, B. H. (2021). *Econometric Analysis of Panel Data*. 6th Edition. Springer.
- Bezemer, D. J. (2014). Schumpeter Might be Right Again: The Functional Differentiation of Credit. *Journal of Evolutionary Economics*, 24(5), 935–950. <https://doi.org/10.1007/s00191-014-0376-2>
- Cervellati, M., Meyerheim, G. & Sunde, U. (2023). The Empirics of Economic Growth Over time and Across Nations: a Unified Growth perspective. *Journal of Economic Growth*, 28, 173–224. <https://doi.org/10.1007/s10887-022-09216-2>
- Chowdhury, E. K., Dhar, B. K., & Gazi, M. A. I. (2022). Impact of Remittance on Economic Progress: Evidence from Low-Income Asian Frontier Countries. *Journal of the Knowledge Economy*, 14(1), 382–407. <https://doi.org/10.1007/s13132-022-00898-y>
- Dhakal, S. C., & Paudel, A. (2023). Remittance in Nepal: Status, Trend and Economic Impacts. *Business and Economics in Developing Countries (BEDC)*, 1(2), 52–60. <https://doi.org/10.26480/bedc.02.2023.82.90>
- Giuliano, P., & Ruiz-arranz, M. (2009). Remittances, Financial Development, and Growth. *Journal of Development Economics*, 90(1), 144–152. <https://doi.org/10.1016/j.jdeveco.2008.10.005>
- Hidhiir, M. H. B., Ahmad, Z., Junoh, M. Z. M., & Yusof, M. F. B. (2024). Dynamics of Economic Growth in ASEAN-5 Countries: A Panel ARDL Approach. *Discover Sustainability*, 5(1), 145. <https://doi.org/10.1007/s43621-024-00351-x>
- Ibrahim, M., & Alagidede, P. (2018). Nonlinearities in Financial Development–Economic Growth Nexus: Evidence from Sub-Saharan Africa. *Research in International Business and Finance*, 46, 95–104. <https://doi.org/10.1016/j.ribaf.2017.11.001>
- Irzam, Y., & Setyari, N. P. W. (2020). Financial Development dan Pertumbuhan Ekonomi Indonesia. *Jurnal Benefita*, 5(2), 140. <https://doi.org/10.22216/jbe.v5i2.5333>
- Khan, F., Haider, A., Shaheen, F., & Zaman, M. (2015). Energy Resources, Foreign Exchange Reserves and Economic Growth: Empirical Evidence from Pakistan. *American-Eurasian Journal of Agriculture and Environmental Science*, 15(9), 1740–1752. <https://doi.org/10.5829/idosi.aejaes.2015.15.9.12778>
- Khan, M. A. (2025). The Impact of Migrant Remittances on Economic Development: Empirical Evidence from the Developing World. *Journal of Social and Economic Development*, 27, 323–351. <https://doi.org/10.1007/s40847-024-00329-5>
- King, R. G., & Levine, R. (1993). Finance and Growth: Schumpeter Might be Right. *Quarterly Journal of Economics*, 108(3), 717–737. <https://doi.org/10.2307/2118406>
- Krušković, B. D. (2023). Econometric VAR Analysis of the Effect of the Foreign Exchange Reserves on Macroeconomic Variables in Emerging Countries: The Case of BRIC Countries. *Journal of Central Banking Theory and Practice*, 12(3), 87-109. <https://doi.org/10.2478/jcbtp-2023-0026>
- Makun, K. K. (2018). Imports, Remittances, Direct Foreign Investment and Economic Growth in Republic of the Fiji Islands: An Empirical Analysis using ARDL Approach. *Kasetsart Journal of Social Sciences*, 39(3), 439–447. <https://doi.org/10.1016/j.kjss.2017.07.002>
- Mankiw, N. G. (2006). The Macroeconomist as Scientist and Engineer. *Journal of Economic Perspective*, 20(4), 29–46. <https://doi.org/10.1257/jep.20.4.29>
- Mariska, M., Hamzah, L. M., & Ratih, A. (2021). The Effect of Remittance, Consumption, and FDI on Economic Growth in ASEAN Countries. *Eko-Regional*, 16(2), 136–143. <https://doi.org/10.25133/JPSSv27n3.0015>
- Maulana, A. Z., & Suprati, I. A. P. (2025). Do Inflation, Labor, FDI, and External Debt Influence Economic Growth? Evidence from ASEAN Countries During the Fintech 3.0. *Journal of Enterprise and Development*, 7(1), 66-78. <https://doi.org/10.20414/jed.v7i1.12710>
- Meyer, D., & Shera, A. (2017). The Impact of Remittances on Economic Growth: An Econometric Model. *EconomiA*, 18(2), 147–155. <https://doi.org/10.1016/j.econ.2016.06.001>
- Millah, R. L., & Wibowo, W. (2021). The Effect of Financial Development on Economic Growth Countries ASEAN-4. *Jurnal Ilmu Ekonomi Terapan*, 6(2), 293–307. <https://doi.org/10.20473/jiet.v6i2.29407>
- Pappas, A., & Boukas, N. (2025). Examining Impact of Inflation and Inflation Volatility on Economic Growth: Evidence from European Union Economies. *Economies*, 13(2), 31. <https://doi.org/10.3390/economies13020031>
- Park, J., Lee, S., & Park, J. (2024). The Economic Decision of International Migration: Two Empirical Evidences from the United States and Canada. *Economies*, 12(8), 214. <https://doi.org/10.3390/economies12080214>

- Peng, D., Ye, Y., & Chen, Q. (2024). Impact of Cross-Border Capital Flows on Foreign Exchange Market Stability. *Finance Research Letters*, 62,(Part A), 105155. <https://doi.org/10.1016/j.frl.2024.105155>
- Prochniak, M., & Wasiak, K. (2017). The Impact of the Financial System on Economic Growth in the Context of the Global Crisis: Empirical Evidence for the EU and OECD Countries. *Empirica*, 44(2), 295–337. <https://doi.org/10.1007/s10663-016-9323-9>
- Purwono, R., Yasin, M. Z., & Mubin, M. K. (2020). Explaining Regional Inflation Programmes in Indonesia: Does Inflation Rate Converge? *Economic Change and Restructuring*, 53(4), 571–590. <https://doi.org/10.1007/s10644-020-09264-x>
- Rusiadi, R., Hidayat, M., Rangkuty, D. M., Ferine, K. F., & Saputra, J. (2024). The Influence of Natural Resources, Energy Consumption, and Renewable Energy on Economic Growth in ASEAN Region Countries. *International Journal of Energy Economics and Policy*, 14(3), 332–338. <https://doi.org/10.32479/ijeep.15917>
- Saadaoui, J. (2024). Financial Development, International Reserves, and Real Exchange Rate Dynamics: Insights from the Europe and Central Asia region. *Finance Research Letters*, 70, 106359. <https://doi.org/10.1016/j.frl.2024.106359>
- Salvatore, D. (2019). *International economics*. John Wiley & Sons.
- Saraan, M. A. B., Suriani, S., & Nasir, M. (2023). The Effect of Foreign Direct Investment and Foreign Exchange Reserves on Economic Growth in ASEAN Countries. *International Journal of Finance, Economics and Business*, 2(1), 76–83. <https://doi.org/10.56225/ijfeb.v2i1.143>
- Sarker, B. (2024). FDI–Growth and Trade–Growth Relationships during Crises: Evidence from Bangladesh. *Financial Innovation*, 10, 55. <https://doi.org/10.1186/s40854-023-00571-6>
- Sein Y. Y., & Rehman, F. U. (2025). Institutional Quality and Economic Growth: the Mediating Role of Human Capital and Innovation within OECD Countries. *International Journal of Innovation Science*. <https://doi.org/10.1108/IJIS-05-2023-0113>.
- Sipahutar, M. A. (2018). Credit Depth on Indonesian Regional Development. *Quantitative Economics Research*, 1(2), 56–67. <http://dx.doi.org/10.17977/um051v1i22018p56-67>
- Sumiyana. (2020). Different Characteristics of the Aggregate of Accounting Earnings between Developed and Developing Countries: Evidence for Predicting Future GDP. *Journal of International Studies*, 13(1), 58–80. <https://doi.org/10.14254/2071-8330.2020/13-1/4>
- Suripto, S., Khasanah, U., Sukarniati, L., Salim, A., Kurniawan, M. L. A., & Athfal, A. A. (2025). Export-led Growth and Growth-led Export in ASEAN: A Panel VECM Causality Analysis. *Jurnal Ekonomi & Studi Pembangunan*, 26(2), 335–359. <https://doi.org/10.18196/jesp.v26i2.28357>
- Takyi, P. O., Dramani, J. B., Akosah, N. K., & Aawaar, G. (2023). Economic Activities' Response to the COVID-19 Pandemic in Developing Countries. *Scientific African*, 20, e01642. <https://doi.org/10.1016/j.sciaf.2023.e01642>
- Taşdemir, S. Z., Dalgıç, B., & Fazlıoğlu, B. (2023). The Impact of Exports on Firm Employment in Türkiye. *Sosyoekonomi*, 31(57), 47-63. <https://doi.org/10.17233/sosyoekonomi.2023.03.03>
- Thabana, G., & Fasanya, I., (2024). Determinants of Foreign Exchange Reserves in Sub-Saharan Africa. *Scientific African*, 26, e02356. <https://doi.org/10.1016/j.sciaf.2024.e02356>.
- Tangtipongkul, K., & Khiev, V. (2019). The Effect of Remittance on Economic Growth in Cambodia. *Journal of Population and Social Studies*, 27(3), 232–246. <https://doi.org/10.25133/JPSSv27n3.0015>
- Todaro, M. P., & Smith, S. C. (2012). Economic Development. In *Routledge Handbook of Marxian Economics* (11th Editi). <https://doi.org/10.4324/9781315774206-29>
- Ukhtiyani, K., & Indartono, S. (2020). Impacts of Indonesian Economic Growth: Remittances Migrant Workers and FDI. *Journal of Economics and Policy*, 13(2), 280–291. <https://doi.org/10.15294/jejak.v13i2.23543>
- Umaru, A., & Zubairu, J. (2012). Effect of Inflation on the Growth and Development of the Nigerian Economy (An Empirical Analysis). *International Journal of Business and Social Science*, 3(10), 183–191.
- Williams, K. (2024). Remittances and Government Expenditures on Human Capital in Developing Countries. *International Economics*, 178. 100508. <https://doi.org/10.1016/j.inteco.2024.100508>

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