



Economic and Institutional Determinants of Export Growth in Asean: Evidence from a Regional and Bilateral Perspective

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ABSTRACT

The ASEAN region has emerged as a vital hub in global trade, yet the determinants of its export performance—particularly from both regional and bilateral perspectives—remain underexplored in a cohesive empirical framework. The study investigates factors affecting export growth in the ASEAN economy over the sample period of 1996–2023 from a regional and bilateral trade flows perspective. The ASEAN countries sample includes Indonesia, Singapore, Malaysia, Thailand, and the Philippines. We employ panel regression techniques to examine the impact of GDP growth, inflation, globalization, political stability, and exchange rate growth on export growth. The findings show that GDP growth and exchange rate growth positively drive export growth, while inflation reduces export growth. In contrast, globalization, political stability, and COVID-19 have not significantly affected export growth in the region. Furthermore, at the bilateral level, the findings are more heterogeneous. Among all variables, GDP growth and exchange rate growth dominate as significant determinants of bilateral export trading in the region. Overall, the results demonstrate that a one-size-fits-all policy cannot explain the trade dynamics of ASEAN; it requires country-specific policies with structural reforms to enhance regional integration.

INTRODUCTION

International trade has changed the way countries trade with each other (Milner, 2017). Globalization encourages countries to increase exports to other countries, so they no longer rely solely on domestic demand. Some global examples have demonstrated the success of regional integrations, such as the *European Union* and *Gulf Cooperation Council* (Boughanmi, Al-Shammakhi, & Antimiani, 2016; Pietrangeli, 2016). In Southeast Asia, a similar effort is being pursued through the *Association of Southeast Asian Nations (ASEAN)* (Weatherbee, 2019). Together, ASEAN countries account for a significant share of global trade and make the region one of the most dynamic economic growth centers in the global landscape (Shimizu, 2021; Suci, Asmara, & Mulatsih, 2015). ASEAN is one of the most dynamic and significant regional blocs in the world. In 2023, the region accounted for 8% of global trade, 5% of global manufacturing value added, and attracted 6% of global foreign direct investment (ERIA, 2023; UNCTAD, 2023). The region also has significant strength in terms of population, with more than 690 million people living there, and overall, it accounts for 7.3% of global GDP (World Economics, 2025; ASEAN Secretariat, 2024). Given the promising growth of the region in the global economic structure and the understanding of its major economic and institutional factors that influence international trade, this topic is considered important (Jovanović, 2015).

Many studies have identified factors that determine bilateral trade flows in terms of macroeconomic fundamentals such as GDP, population size, and infrastructure (Abdi, Zaidi, & Karim, 2023; Adhikari, 2024; Dang & Pheng, 2015; Mao, Cui, Hussain, & Shao, 2024). For example, Nguyen and Vo (2017) studied *ASEAN + 3* and found that all their nations are positively affected by output asymmetry and comparative advantages. Other studies demonstrate that economic growth,

geographical distance, population, free trade agreements, and the Belt and Road Initiative have a positive effect on the region's cooperation with China (Zhai, 2023). Moreover, Situmorang (2021) demonstrates that institutional quality and regulations significantly drive international trade among countries in the region. Yuliadi et al. (2024) highlight the importance of macroeconomic and institutional factors on bilateral trade for promoting export cooperation among regional members, though the study is limited in addressing sector-specific push factors (Aggarwal, 2023; Byiers, Vanheukelom, & Kingombe, 2015; Gedefie, Wu, & Sher, 2025; Kurul, 2023).

Although much literature exists on the region's international trade, research gaps remain. First, much of the literature still focuses on total trade flows using gravity-type models to reflect general macroeconomic determinants but does not consider specific bilateral relationships between ASEAN member countries. This gap hinders understanding of how structural and institutional variations affect trade commitments and interdependence among countries in the region. Moreover, previous studies often combine goods and services into a single trade measure, without differentiating between them to understand the specific determinants affecting each. As a result, given the absence of such efforts, there is a serious research gap that this study aims to fill.

This study aims to address these gaps by examining the key macroeconomic and institutional factors that influence bilateral trade within ASEAN countries. The sample includes Indonesia, Singapore, Malaysia, Thailand, and the Philippines, with data from 1996 to 2023. The dependent variable used in this study is bilateral export growth, derived from UN Comtrade. Independent variables include inflation, economic growth, exchange rate growth, the globalization index, political stability, and COVID-19. Most variables are taken from the World Bank. The COVID-19 index is a dummy variable denoting 2020, 2021, and 2022 as 1, and 0 otherwise. Two models are generated: the first estimated at the regional level, and the second at the individual bilateral country level. All estimations use panel regression analysis, covering pooled effects, fixed effects, and random effects. Model selection is based on the Chow test, Hausman test, and Lagrange Multiplier test. Prior to estimation, stationarity is tested using the Im-Pesaran-Shin unit root test, and multicollinearity is checked using the variance inflation factor. Finally, models are estimated using robust and clustered standard errors to address heteroskedasticity and serial correlation issues.

This study contributes in several ways. First, it advances the literature by moving aggregate trade analysis to a more bilateral focus, allowing capture of the specific structural economic and institutional determinants affecting bilateral trade relationships in the region. Second, it provides a new perspective on the interactions between macroeconomic determinants, political factors, and institutional variables within a single model. Third, methodologically, the study employs panel regression analysis, providing a comprehensive and robust framework for analyzing trade flows in bilateral relationships over the period 1996 to 2023. Finally, by understanding the findings, policymakers are expected to gain actionable insights into how specific macroeconomic and institutional policies can enhance trade interdependence among ASEAN members and promote progress from a singular world view toward broader regional integration.

METHODOLOGY

This study employed a quantitative research design using panel data regressions to analyze the economic and political institutional determinants of Asian export growth from 1996 to 2023. The empirical approach integrated both regional and bilateral relationships to reflect heterogeneous determinants of trade performance across member countries. The sample included Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

The dependent variable was bilateral export growth, derived from UN Comtrade, focusing only on the export growth of goods, excluding services. The independent variables consisted of key macroeconomic and institutional factors, including inflation, real GDP growth,

exchange rate growth, the KOF globalization index, and political stability, mostly sourced from the World Bank. A dummy variable for COVID-19 was included, coded as 1 for the years 2020, 2021, and 2022, and 0 for all other years. Additionally, a development status dummy was added, coded as 1 for Singapore and 0 for other members, indicating developed versus developing countries.

The empirical estimation was performed in two steps: the first step estimated the determinants at the aggregate regional level, while the second step examined bilateral relationships by estimating how exports from each Asian member responded to partner country determinants. This twofold approach allowed the analysis to identify macroeconomic and institutional drivers as well as country-specific dynamics. Results were estimated using panel regression methods with three model specifications: pooled effect, fixed effect, and random effect. At the regional level, the baseline panel regression was specified as:

$$Export_Growth_{it} = \alpha + \beta_1 Inflation_{it} + \beta_2 GDP_Growth_{it} + \beta_3 Exchange_Rate_Growth_{it} + \beta_4 Globalization_{it} + \beta_5 Political_Stability_{it} + \beta_6 COVID19_t + \beta_7 DEV_i + \varepsilon_{it}$$

, where α is the intercept and β s denote the estimated impacts of bilateral trading i at year t , and ε_{it} is the error term at the regional level. DEV is a dummy variable representing an advanced economy, which is coded 1 for Singapore and 0 for others. On the other hand, for an individual country, the regression equation is provided as follows:

$$Export_Growth_{j,k,t} = \alpha + \beta_{1,j,k} Inflation_{j,k,t} + \beta_{2,j,k} GDP_Growth_{j,k,t} + \beta_{3,j,k} Exchange_Rate_Growth_{j,k,t} + \beta_{4,j,k} Globalization_{j,k,t} + \beta_{5,j,k} Political_Stability_{j,k,t} + \beta_{6,j,k} COVID19_t + \beta_{7,j,k} DEV_i + \varepsilon_{it}$$

where $Export_Growth_{j,k,t}$ denotes export growth between country j and country k in year t . Accordingly, $\beta_{1,j,k}$ denotes the impact of inflation on export growth in bilateral trading between country i and country k .

To guarantee the validity of our models, the selection criteria are carried out as follows. The Chow test selects between pooled and fixed effects, the Hausman test decides whether our models are best in fixed or random effects, and the Breusch-Pagan LM test is used to test between pooled and random effects. Before the estimations take place, some preliminary analysis tests are conducted. This includes a stationary test using Im-Pesaran-Shin panel unit root test. In addition to the unit root test, we also measure multicollinearity using the variance inflation factor. The researchers also estimate the models using clustered and robust standard errors to tackle the issue of heteroskedasticity and serial correlation.

RESULT AND DISCUSSION

The analysis in this study is classified into two parts. The first part is estimated at the regional level, while the second part focuses on the individual country level. Both estimations employ panel data regression, with export growth as the dependent variable and inflation, GDP growth, the KOF globalization index, political stability, and exchange rate growth as the independent variables. Descriptive statistics, unit root, and multicollinearity tests are conducted to check whether the variables are stationary or not. No missing observation is found during the sample period. Furthermore, using Im-Pesaran-Shin unit root test, no unit root is found across the variables in the model. Hence, all the variables are integrated at level (I(0)). Panel data regression is conducted using three approaches: Pooled effect, fixed effect, and random effect. The Chow test is applied to choose between the pooled effect and the fixed effect. The Hausman test is applied to choose between the fixed effect and the random effect models. Finally, the LM test is applied to select between the pooled effect and the random effect

Table 1 summarizes the statistics on economic and institutional determinants in our sample from 1998 to 2023. Indonesia exhibits relatively high aggregate and average export growth, along with relatively high inflation as well as a very high maximum inflation, which most likely happened during the Asian financial crisis. This indicates that although Indonesia has preserved a strong performance in exports, it also experienced considerable price volatility, which can adversely impact its competitiveness. On the other hand, Malaysia and the Philippines have more modest inflation rates with lower volatility and moderate export growth averages. This indicates our relatively stable macroeconomic conditions, but also contributes to an external trade that is less accelerated than that of Indonesia.

Singapore exhibits the lowest average export growth and very low inflation, which is consistent with its structural dependence on high-value-added services, as opposed to traditional goods exports. The country also has a high globalization index and tends to have a stable, positive political stability index, which shows strong institutional capacity as well as stable export growth. In the case of Thailand, the country shows the highest average of export growth but with the highest volatility, which underscores that the country's international trade is intensively exposed to external shocks and cyclical global demand. These statistics demonstrate the diversity of factors affecting trade in the ASEAN region. Some economies are price sensitive and more volatile, like Indonesia and Thailand, while others are more dependent on structural and institutional factors, such as Singapore and Malaysia, which account for different patterns of export growth.

Table 1: Summary Statistics per country over 1998 - 2023

Indonesia	Mean	SD	Min	Max
Export growth	.127	.206	-.246	.768
Inflation	8.446	10.46	1.56	58.451
GDP growth	.089	.176	-.558	.467
KOF	60.559	3.054	51.823	64.44
Political Stability	-.962	.551	-2.095	-.38
Exchange rate growth	.116	.459	-.216	2.442
Malaysia				
Export growth	.118	.286	-.301	1.35
Inflation	2.307	1.371	-1.139	5.441
GDP growth	.062	.113	-.278	.261
KOF	76.499	4.319	67.799	81.059
Political Stability	.202	.176	-.042	.571
Exchange rate growth	.025	.09	-.086	.395
Philippines				
Export growth	.082	.28	-.48	1.383
Inflation	4.397	2.028	.674	9.235
GDP growth	.064	.088	-.208	.222
KOF	62.719	3.305	52.47	66.472
Political Stability	-1.146	.426	-1.779	-.257
Exchange rate growth	.032	.092	-.101	.388
Singapore				
Export growth	.054	.17	-.307	.421
Inflation	1.765	2.041	-.532	6.628
GDP growth	.072	.092	-.144	.242
KOF	80.772	3.024	73.759	83.722
Political Stability	1.282	.175	.877	1.599

Exchange rate growth	-.003	.042	-.078	.127
Thailand				
Export growth	.229	.636	-.767	3.368
Inflation	2.421	2.291	-.9	7.995
GDP growth	.046	.102	-.243	.211
KOF	66.528	4.986	55.238	73.427
Political Stability	-.659	.616	-1.443	.639
Exchange rate growth	.016	.089	-.089	.319

Source: Results of Researcher Data Processing (2024)

Regional Estimation Results

The estimation result at the Asian regional level is illustrated in Table 2. At the regional level, the regression demonstrates that the Asian region reveals several significant determinants of export growth while also highlighting the limited explanatory power of certain variables. The regression is conducted using panel data regressions with bilateral trade as the panel. Our selection criteria test demonstrates that the pooled effect is the best panel regression estimation at the regional scale.

Table 2: Regression Results

Variable	Coefficient	Std. Error	t-value	p-value
Inflation	-0.013 **	0.004	-2.90	0.009
GDP Growth	1.351 ***	0.117	11.51	0.000
Globalization (KOF)	0.001	0.002	0.28	0.780
Political Stability	0.008	0.022	0.36	0.725
Exchange Rate	0.622 ***	0.106	5.87	0.000
COVID-19	0.035	0.024	1.48	0.155
Development	-0.100 **	0.024	-4.09	0.001
Constant	0.007	0.175	0.04	0.970

Source: Results of Researcher Data Processing (2024)

Observations = 436; R-squared = 0.145; F-test = 10.35; Prob > F = 0.000; Akaike Information Criterion (AIC) = 23.246; Bayesian Information Criterion (BIC) = 55.687.

Notes: Standard errors are reported in parentheses. Significance levels are denoted as: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

The macroeconomic and institutional factors that have affected export growth are explored in the regression results. It is shown that GDP growth has the highest impact on export growth with the coefficient of 1.351 ($p < 0.01$). This strong positive correlation is in line with Houthakker and Magee (1969) as well as more recent evidence by Helpman and Krugman (1985), who suggested that scale effects enhance trade flows. This finding also demonstrates that one percent increase in GDP growth tends to increase the export growth in the region by 1.351%, everything else equal. Likewise, currency appreciation also has a strong positive effect (coefficient = 0.622, $p < 0.01$). This finding shows that currency appreciation makes exports more competitive, which confirms the traditional elasticity view into the balance of payments (Krugman & Obstfeld, 2009), and evidence for emerging markets is reported by Bahmani-Oskooee and Hegerty (2010).

In contrast, inflation shows a negative impact on export growth (-0.013 , $p < 0.05$), indicating that the increase in domestic costs of goods imposes an unfavorable effect on international competitiveness. This finding is consistent with the cost push effect of inflation in Dornbusch (1988). Furthermore, a negative sign in the development dummy variable (-0.100 , $p < 0.05$) indicates the structural differences between developed and developing countries. Since the development status is only for Singapore, this negative sign shows that Singapore tends to have a lower export goods growth than other countries, which makes sense because a developed nation like Singapore focuses more on service than goods export.

Other variables, including globalization (KOF index), political stability, and COVID-19 dummy are not significant. Although globalization and political stability have sometimes been identified as long-term determinants of trade (Dollar & Kraay, 2003), their insignificance in this analysis may indicate a

non-direct relationship with trade. Moreover, the insignificance of the COVID-19 dummy variable might indicate that short-term pandemic-related trade shocks had no impact on export performance when controlling for macroeconomic fundamentals, which is a result consistent with recent findings by Espitia et al. (2022).

The model accounts for 14.5% of the variations in export growth and the F-test also confirms that the explanatory variables are jointly significant. Although the explanatory power is limited the findings confirm that microeconomic fundamentals plays an important role in export performance. This finding underscores the importance of promoting sustainable economic growth together with a stable and competitive exchange rate management. At the same time, inflation is also influential in determining competitiveness of international trade in the region. The small effect of globalization and political stability in this model also suggests that structural and institutional reforms are required to ensure that more benefits are gained from the international trade, which is consistent with Rodrik's (2018) reasoning on the interconnection between domestic institutions and global markets.

Individual Country Level

At the bilateral regression level, the results show that the determinants of frightening export growth among ASEAN member countries are diverse. While some variables demonstrate robust and consistent effects, others remain weak or insignificant, which highlights the complex interplay of microeconomic variables, institutional quality, and political stability in shaping trade dynamics (Rodrik, 2008; Baldwin, 2016).

Table 3: Bilateral Trade Panel Regression Results

Country	Variables	Partner				
		Indonesia	Malaysia	Philippines	Singapore	Thailand
Indonesia	inflation	N/A	-0.026***	-0.032**	-0.004	-0.010
	GDP growth	N/A	1.823***	1.353**	1.417**	1.448**
	KOF	N/A	0.006	-0.018	0.069**	0.029
	Political Stability	N/A	-0.143**	0.031	-0.266**	-0.172
	EXC growth	N/A	0.988***	0.965**	0.493	0.608*
	COVID-19	N/A	0.206**	0.022	0.057	0.132
Malaysia	inflation	0.060	N/A	0.011	0.048	0.036
	GDP growth	0.957	N/A	3.074***	1.095	1.085
	KOF	0.000	N/A	0.030	0.018	0.013
	Political Stability	-0.220	N/A	-0.116	-0.006	0.140
	EXC growth	-0.410	N/A	2.889***	0.332	0.400
	COVID-19	0.094	N/A	0.126	0.120	-0.048
Philippines	inflation	-0.078*	-0.028	N/A	-0.039	-0.022
	GDP growth	6.569***	1.782***	N/A	3.806	2.196**
	KOF	-0.014	-0.038	N/A	-0.022	0.029
	Political Stability	-0.122	0.282	N/A	-0.155	-0.067
	EXC growth	5.403***	2.157	N/A	3.613	2.077*
	COVID-19	0.696***	0.078	N/A	0.405	0.180
Singapore	inflation	0.030**	0.016*	0.004	N/A	0.006
	GDP growth	1.385***	1.596***	1.474***	N/A	0.907**
	KOF	-0.022***	-0.023	-0.016	N/A	-0.025***
	Political Stability	0.327**	0.186	0.220	N/A	0.205
	EXC growth	-1.435***	-0.169	0.146	N/A	-1.189
	COVID-19	0.021	-0.020	-0.043	N/A	-0.055
Thailand	inflation	-0.018	-0.012	-0.054	0.003	N/A
	GDP growth	-2.345	-2.769	0.159	-5.701	N/A
	KOF	-0.049	-0.043	-0.033	-0.040	N/A
	Political Stability	-0.073	-0.081	-0.187	-0.059	N/A
	EXC growth	-4.215	-4.580	0.692	-7.704	N/A
	COVID-19	-0.104	-0.108	-0.127	-0.070	N/A

Source: Results of Researcher Data Processing (2024)

Indonesia. In the case of Indonesia, the bilateral panel of aggression demonstrates that the country has a strong trade relationship with Malaysia, in which the most significant estimated coefficients are found. In relation to Malaysia, the regression analysis shows that Malaysian inflation and political stability have a negative and significant impact on Indonesia's exports to Malaysia. This means that if Malaysian inflations and political stability are higher, Indonesian export to Malaysia tends to decline. On the other hand, Malaysian GDP growth and currency appreciation tend to drive Indonesian GDP growth in Malaysia. This means that if Malaysian economic growth increases and its currency is appreciated, Indonesia tends to export more goods to Malaysia. Furthermore, in relation to the Philippines, the regression demonstrates that the Philippines' inflation has a negative impact on Indonesian export growth to the Philippines. On the contrary, the Philippines' positive economic growth and currency appreciation incentivized Indonesia to export more to the country. Furthermore, in relation to Singapore, the regression demonstrates that Singapore's economic growth and its globalization index are positively incentivizing Indonesia to export more to that country. However, political stability in Singapore tends to reduce Indonesia's export activity to Singapore. Finally, what drives Indonesia's exports more to Thailand is Thailand's GDP growth and Thailand's currency appreciation.

Malaysia. In the case of Malaysia, the regressions at bilateral trade indicate that only the Philippines' macroeconomic determinants and institutional factors affect Malaysian export growth. Specifically, the Philippines' GDP growth and export rate appreciations tend to induce more export goods from Malaysia to that country. On the contrary, no statistically significant variables have been demonstrated by other member countries towards Malaysia.

Philippines. In the case of the Philippines, significant pull factors are shown by Indonesia, Malaysia, and Thailand. Specifically, Indonesian positive economic growth and exchange rate appreciation tend to incentivize the Philippines to export more goods to this country (Indonesia). On the contrary, higher inflation, more globalization, and higher political stability tend to reduce the Philippines' incentive to export more goods to Indonesia. Finally, during the COVID pandemic, the Philippines' export growth to Indonesia was relatively higher than that in the non-pandemic period. In the case of Malaysia, the Philippines' positive economic growth incentivizes Malaysians to export more goods to the country. Finally, in relation to Thailand, positive economic growth and currency appreciation in Thailand incentivize the Philippines to export more goods to Thailand.

Singapore. In the case of Singapore, Indonesia, Malaysia, the Philippines, and Thailand, there are different significant pull factors, incentivizing Singapore to export goods to them. In relation with Indonesia, the Indonesian positive economic growth, positive inflation, and better political stability incentivize Singapore to export more goods to Indonesia. On the contrary, a higher globalization index and currency appreciation of Indonesia disincentivize Singapore from exporting more goods to Indonesia. In the case of Malaysia, the regression demonstrates that Malaysian positive economic growth and higher inflation motivate Singapore to export more goods to the country. This is similar to the Philippines, where the positive economic growth will incentivize Singapore to export more goods to the country. Finally, Thailand's positive economic growth also provides a positive incentive for Singapore to export more goods

to the country, but a higher globalization index in Thailand restrains Singapore from exporting more goods to the country.

Thailand. In the case of Thailand, no significant factors are found across all member countries. This finding indicates that there are no specific macroeconomic, institutional, or political determinants of ASEAN member states that incentivize Thailand to export more goods to its neighboring countries in ASEAN.

CONCLUSION

The regional-level analysis showed that ASEAN export growth was mainly driven by macroeconomic fundamentals, with positive effects from GDP growth and exchange rate depreciation, while inflation negatively impacted exports; globalization, political stability, and the COVID-19 pandemic had no significant influence. Bilateral-level results revealed heterogeneity: Indonesia's exports were stimulated by partners' economic growth and currency appreciation, Malaysia's exports were influenced by the Philippines' economic performance, and Singapore's exports benefited from partner growth, inflation, and political stability, whereas Thailand showed no consistent determinants. These findings highlight the inadequacy of uniform trade policies in ASEAN, emphasizing the need for tailored strategies considering each country's bilateral dynamics. Policymakers should focus on stable growth and competitive exchange rates, with Singapore emphasizing policies that support global value chain integration, while Malaysia and Thailand may require structural and institutional reforms. Enhancing regional trade resilience will demand a combination of macroeconomic management, institutional improvements, and deeper supply chain integration. Future research should investigate additional economic and institutional variables to further understand these dynamics.

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