

Investment Dynamics in the Economies of Selected ASEAN Countries

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ABSTRACT

Research Originality: This research is original in its dynamic panel analysis of investment efficiency determinants in ASEAN+8 economies during 2019-2023, revealing persistent efficiency patterns and nonlinear governance effects.

Research Objectives: This study investigates the impact of foreign direct investment, governance quality, trade openness, and capital intensity on investment efficiency (ICOR) in ASEAN economies.

Research Methods: This study employs System GMM estimation on panel data from 8 ASEAN countries. Key variables include ICOR, FDI inflows, the Corruption Perception Index, trade openness (% of GDP), and capital per worker.

Empirical Results: The analysis reveals strong persistence in investment efficiency over time. While foreign direct investment has only a limited short-term effect, trade openness is a critical long-run driver of efficiency. The relationship with governance quality is complex and nonlinear. Furthermore, capital per worker was not a significant determinant of investment efficiency in the region.

Implications: These results suggest ASEAN policymakers should combine FDI quality targeting with institutional reforms and maintain long-term trade liberalization commitments to enhance investment efficiency.

Keywords:

investment efficiency; foreign direct investment; governance quality; trade policy; capital per worker

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INTRODUCTION

Investment is a fundamental element that plays a crucial role in ASEAN economic integration efforts. This effort is reflected in the ASEAN Economic Community (AEC) Blueprint 2025, where investment is a key component in the first characteristic of AEC to realize an integrated and cohesive economy. ASEAN's strategic vision for investment aims to enhance the region's attractiveness as a global destination by establishing an open, transparent, and predictable investment regime. The ASEAN Comprehensive Investment Agreement (ACIA) is the key policy instrument for realizing this vision and creating a free and open investment environment (ASEAN Secretariat, 2022).

The dynamics of investment efficiency in ASEAN countries present a compelling research topic due to the region's rapid economic growth and integration. The Incremental Capital-Output Ratio (ICOR) is a critical indicator of how effectively capital contributes to economic growth. A low ICOR reflects high investment efficiency, indicating that less investment is required to produce additional output. Recent studies by Fafurida et al. (2023) and Utomo (2023) highlight significant variations in ICOR across ASEAN countries, influenced by disparities in infrastructure, technological innovation, and governance quality. However, the literature's relationship between foreign direct investment (FDI), governance indicators like the Corruption Perception Index (CPI), trade openness, and capital per worker remains inconsistent, warranting further investigation.

Previous research offers mixed findings on the impact of FDI on investment efficiency. While Alfaro et al. (2020) and Pineli et al. (2018) argue that FDI enhances economic growth through technology transfer and skill development, Ivanović (2015) and Levine (2022) find no significant effect, suggesting that FDI's benefits depend on host-country conditions. Similarly, the role of governance is debated: Mauro (2020) and Sekkat (2021) demonstrate that corruption hampers investment efficiency, whereas Huntington (2018) contends that in weak institutional settings, corruption might "grease the wheels" of growth. Trade openness, another critical factor, is shown by Romer (2020) to boost efficiency, but Rodrik (2021) cautions that its benefits are contingent on complementary domestic policies.

This study addresses several gaps in the existing literature. First, while prior research has examined FDI and governance separately, few studies integrate these factors with trade openness and capital per worker in a dynamic panel framework. Second, the inconsistent findings in previous studies suggest the need for a more nuanced analysis, particularly in the ASEAN context, where economic structures and institutional quality vary widely. Third, this research employs the System Generalized Method of Moments (Sys-GMM) to account for endogeneity and dynamic effects, offering more robust estimates than earlier studies relying on static models.

The novelty of this study lies in its comprehensive approach to analyzing investment dynamics in ASEAN+8 countries, incorporating recent data (2019–2023) and advanced econometric techniques. By explicitly examining the interplay between FDI, governance, trade openness, and capital intensity, this research provides updated insights into the determinants of investment efficiency. The findings are expected to

contribute to the theoretical debate on investment-growth linkages and offer actionable policy recommendations for ASEAN policymakers to enhance capital productivity.

METHODS

This study employs a dynamic panel data analysis to examine the determinants of investment efficiency in ASEAN+8 economies from 2019 to 2023. These five years were selected to capture recent trends, including pre-pandemic economic conditions, the disruptions caused by COVID-19, and subsequent recovery efforts. This timeframe allows the study to show how significantly external shocks and policy responses have influenced investment dynamics.

Table 1. Operational Variables

Variables	Definitions	Measurements	Sources	References
Incremental Capital Output Ratio (ICOR)	Measures investment efficiency by comparing capital investment to economic output growth.	Ratio of investment (% of GDP to GDP growth rate (unitless score). Lower ICOR = higher efficiency.	World Bank, ASEAN Stats	(Fafurida et al., 2023)
Foreign Direct Investment (FDI)	Net inflows of cross-border investment for acquiring lasting interest in enterprises.	Annual FDI inflows (millions of USD, nominal).	ASEAN Stats, World Bank	(Alfaro et al., 2020)
Corruption Perception Index (CPI)	Measures perceived public-sector corruption. Higher scores indicate cleaner governance.	Scaled from 0 (highly corrupt) to 100 (very clean). Annual country scores.	Transparency International	(Mauro, 2020 & Utomo, 2023)
Trade Openness	The degree of a country's integration into global trade.	Sum of exports + imports as % of GDP.	World Bank, ASEAN Stats.	(Romer, 2020 & Rodrik, 2021)
Capital per Worker	Capital intensity in production reflects labor productivity.	Gross fixed capital formation divided by the employed labor force (% output per worker).	ILO (ILOSTAT), World Bank	(Barro, 2020)

The research utilizes secondary data from reputable sources, including ASEAN Stats for Foreign Direct Investment (FDI) and trade openness metrics, Transparency International for the Corruption Perception Index (CPI), and the World Bank and International Labour Organization (ILO) for data on capital per worker and GDP-related indicators. The dataset covers eight ASEAN countries, ensuring a representative analysis of regional investment patterns. The study applies the System Generalized Method of Moments (Sys-GMM) estimator to address potential endogeneity and dynamic relationships. This approach is particularly suitable for panel data with a short period and persistent variables, as it combines both level and first-differenced equations to improve efficiency. The model includes a lagged dependent variable (ICOR_{it-1}) to account for persistence in investment efficiency, while other key regressors, such as FDI, CPI, trade openness, and capital per worker, help assess their impact on ICOR.

Several diagnostic tests were conducted to ensure the robustness of the results. The Sargan test confirmed the instruments' validity, while the Arellano-Bond test checked for autocorrelation in the residuals. Additionally, an unbiasedness test compared the Sys-GMM estimates with those from Fixed Effects (FEM) and Pooled Least Squares (PLS) models to verify consistency. These tests collectively support the reliability of the findings.

The Sys-GMM approach was selected for its superior ability to control for endogeneity and dynamic effects, advantages not offered by alternative methods like Difference GMM (FD-GMM) or static panel models. By incorporating lagged variables and robust instrumentation, this method provides more accurate estimates, making it well-suited for analyzing investment efficiency in rapidly evolving economies like those in ASEAN.

This methodological framework allows the study to capture the complex relationships between investment efficiency and its determinants, offering policy-relevant insights for enhancing regional capital productivity. Table 1 presents more detailed information about the operational variables.

Furthermore, the research model equation is as follows (Ibrahim & Iliya, 2023):

$$ICOR_{it} = \beta_0 + \beta_1 FDI_{it} + \beta_2 CPI_{it} + \beta_3 TO_{it} + \beta_4 MpP_{it} + \mu_{it} \quad (1)$$

To include the lag of ICOR as another explanatory variable, the model can be expanded and specified below;

$$ICOR_{it} = ICOR_{it-1} + \beta_1 FDI_{it} + \beta_2 CPI_{it} + \beta_3 KP_{it} + \beta_4 CpW_{it} + \mu_{it} \quad (2)$$

Where:

$ICOR$	: Incremental Capital Output Ratio
$ICOR_{it-1}$	: Lag Incremental Capital Output Ratio
FDI	: Foreign Direct Investment
CPI	: Corruption Perception Index
TO	: Trade Openness
CpW	: Capital per Worker
i	: 8 ASEAN Countries
t	: Period 2019-2023
$t-1$	: Time period t-1
μ_{it}	: Residuals for the i-th country and t-th period group
β_0	: Constant
$\beta_1, \beta_2, \beta_3, \beta_4$	: Coefficient

RESULT AND DISCUSSION

The analysis of investment dynamics in ASEAN+8 economies from 2019 to 2023 reveals critical insights into the determinants of investment efficiency, captured by the ICOR. The application of the System GMM estimator provides robust estimates that account for endogeneity and the dynamic nature of efficiency, offering a more nuanced understanding than previous static analyses.

A central finding is the strong persistence of investment efficiency, evidenced by the highly significant coefficient (0.914) for the lagged ICOR. This indicates that approximately 91% of a country's efficiency level in one year carries over to the next. This path dependency, aligning with Fafurida et al. (2023), suggests that efficiency is ingrained within a country's institutional and economic structure. Consequently, breaking cycles of low efficiency or maintaining high performance requires deep, structural reforms rather than transient policy measures. This persistence underscores the importance of long-term strategic planning over short-term interventions.

Contrary to the common expectation that FDI is a straightforward catalyst for efficiency, our results show a minimal and statistically insignificant short-term effect (-0.0116). This finding challenges studies like Alfaro et al. (2020) but resonates with the nuanced view of Ivanović (2022) in the ASEAN context. This ambiguity can be attributed to the quality and absorptive capacity dichotomy. A significant portion of FDI inflows into ASEAN is directed towards low-value-added manufacturing and resource extraction, which offer limited technology spillovers. Furthermore, the region's varying levels of human capital and technological readiness may inhibit its ability to absorb and leverage advanced foreign technologies, diluting FDI's potential impact. This suggests that the mere volume of FDI is less important than its sectoral composition and the host economy's preparedness to benefit from it.

The relationship between governance quality, measured by the CPI, and investment efficiency presents a particularly complex and counterintuitive result. The positive, albeit statistically insignificant, coefficient contradicts simplistic narratives that cleaner governance automatically translates to better economic outcomes. This finding nevertheless lends tentative support to Huntington's (2018) thesis that certain types of corruption can, in specific contexts, grease the wheels of commerce in otherwise inefficient bureaucracies. "Greasing the wheels" hypothesis, suggesting that certain informal practices might expedite processes. However, this should not be misconstrued as an endorsement of corruption. Instead, it highlights a more critical issue: the weakness of formal institutions. The problem may not be the absence of anti-corruption laws but rather deep-seated institutional inefficiencies that make investors seek alternative, informal routes. Therefore, the policy focus should shift from merely punishing corruption to streamlining regulations and strengthening the overall institutional framework to reduce the need for such practices.

Perhaps the most impactful finding is the stark difference between short-term and long-term effects of trade openness. The immediate effect is modest and insignificant (-0.186), but the long-run elasticity is substantial and negative (-2.158). This powerful result strongly supports the arguments of Rodrik (2021) and Romer (2020). It indicates that the benefits of openness are not instantaneous; they materialize over time as industries undergo restructuring, integrate into global value chains, and are exposed to competitive pressures that drive innovation and productivity. This underscores trade liberalization as a long-term strategic commitment whose dividends are paid through sustained enhancements in allocative and productive efficiency.

Finally, the result for capital per worker is perhaps the most surprising; it shows no significant effect on investment efficiency. This directly challenges traditional growth models that emphasize capital accumulation. It aligns, however, with Pritchett's (2020) argument that simply adding more physical capital is ineffective if not complemented by investments in human capital and efficient management. A factory with advanced machinery will not be productive if the workforce lacks the skills to operate it or if management is inefficient. This finding shifts the focus from the quantity of capital to the quality of its deployment, emphasizing that complementary investments in human capital and institutional support are prerequisites for capital intensity to translate into genuine efficiency gains.

At this stage, the dynamic panel data regression model is estimated using the two-step GMM first-difference approach and the System GMM (Sys-GMM) estimator approach shown in Table 2. Table 2 shows the coefficient value and standard error for each independent variable using the Arellano-Bond FD-GMM approach. The coefficient value shows the effect of changes in the independent variable on the dependent variable. This indicates how much change occurs in the ICOR variable for each unit change in each independent variable, where a positive coefficient indicates a unidirectional relationship and a negative coefficient indicates an opposite relationship.

Table 2. Arellano-Bond FD-GMM Model Arellano-Bond FD-GMM Model

Variables	Coefficient	Std.Error	Z-Value	P-Value
ICOR _{it-1}	.5923465	.3711614	1.60	0.111
FDI _{it}	-.016401	.0209445	-0.78	0.434
CPI _{it}	.0696094	.3046488	0.23	0.819
TO _{it}	-.0312875	.2337727	-0.13	0.894
CpW _{it}	-.0067112	.0140994	-0.48	0.634
Cons	.110115	1.409233	0.08	0.938

Table 3 shows the coefficient value and standard error for each independent variable using the SYS-GMM Blundell and Bond approach. The coefficient value shows the effect of changes in the independent variable on the dependent variable. This indicates how much the ICOR variable changes for each unit change in each independent variable, where positive values indicate a unidirectional relationship, while negative values indicate an opposite relationship.

The Sargan test is a statistical testing method used to evaluate the validity of instrumental variables in econometric models. This test aims to identify overidentifying restrictions in the model. The test is conducted with the following hypothesis:

H_0 : The condition of overidentifying restrictions in the model estimation is valid (the instrument variable is not correlated with the error term)

H_1 : The overidentifying restrictions condition in the model estimation is invalid (the instrument variable is correlated with the error term)

Table 3. Blundell and Bond's SYS-GMM model

Variables	Coefficient	Std.Error	Z-Value	P-Value
ICOR _{it-1}	.9138864	.1105802	8.26	0.000
FDI _{it}	-.0115803	.0210472	-0.55	0.582
CPI _{it}	.0524174	.2940645	0.18	0.859
KP _{it}	-.1858231	.2113038	-0.88	0.379
MpP _{it}	.0002011	.0130448	0.02	0.988
Cons	.7035767	1.243452	0.57	0.572

The test uses a significance level (α) of 0.05, or 5%. If the probability value of the Sargan statistic is greater than α (p-value > 0.05), then H_0 is rejected, which means that the instrument variable used in the model is valid. Conversely, if the probability value is smaller than α (p-value < 0.05), then H_0 is rejected, which indicates that the instrument variable is invalid. The following presents the results of the Sargan test to evaluate the validity of the instrument variables in the GMM estimation model (Algifari, 2021). The test results include the value of the Sargan statistic and its probability:

Table 4. Sargan Test

Model	Statistical value	P-value
FD-GMM	4.950485	0.4220
Sys-GMM	8.167252	0.4173

Based on the data presented in Table 4 regarding the Sargan Test, it can be concluded that two models were tested: FD-GMM and Sys-GMM. The FD-GMM model produces a statistical value of 4.950485 with a P-value of 0.4220, while the Sys-GMM model has a higher statistical value of 8.167252 with a P-value of 0.4173. Both models show a P-value greater than the significance level of 0.05 (5%), which indicates that the instruments used in both models are valid. This indicates that there is no problem of overidentifying restrictions in the model, which means that the model specifications and instruments used in the estimation are correct. Based on the results of this Sargan test, both models can be considered robust and reliable for further analysis.

The Arellano-Bond test is a statistical testing method used to evaluate the consistency of estimators generated from the Generalized Method of Moments (GMM) process. This test detects the presence or absence of autocorrelation in the residuals that have been transformed into first differences. The GMM estimator is considered consistent if there is no autocorrelation in the second-order residuals (second-order serial correlation). The hypotheses tested are:

H_0 : There is no autocorrelation in the second-order residuals

H_1 : There is autocorrelation in the second-order residuals.

The test is conducted with a significance level (α) of 0.05. If the probability value of the Arellano-Bond statistic is greater than α (p-value > 0.05), then H_0 fails to be rejected,

indicating that the GMM estimator is consistent. Conversely, if the probability value is smaller than α (p-value < 0.05), then H_0 is rejected, indicating an autocorrelation problem, and the estimator is inconsistent. The following are the results of the Arellano-Bond test to evaluate the consistency of the GMM estimator through autocorrelation testing on the residuals (Algifari, 2021). The test results include the Arellano-Bond statistical value for the second order (AR2) along with its probability:

Table 5. Arellano-Bond Test

Model	Statistical value	P-value
FD-GMM	1.2311	0.2183
Sys-GMM	1.0209	0.3073

Based on the results shown in Table 5 regarding the Arellano-Bond Test, the FD-GMM model has a statistical value of 1.2311 with a P-value of 0.2183. In contrast, the Sys-GMM model produces a slightly lower statistical value of 1.0209 with a P-value of 0.3073. Both models show a P-value greater than 0.05 (5%) significance level, indicating the absence of second-order autocorrelation in the model. These results indicate that the assumption of no serial autocorrelation in the error terms is met, which is an important requirement in GMM estimation. Thus, both models can be considered valid and meet the assumptions required for dynamic panel data analysis.

The next test evaluates the unbiasedness of the estimator by comparing the dependent variable lag coefficients generated from the First-Difference GMM (FD-GMM) and System GMM (SYS-GMM) methods against two reference models. The reference models used are the Fixed Effect Model (FEM), which tends to produce downward bias, and the Pooled Least Squares (PLS), which tends to produce upward bias. An unbiased estimator should have a value that is between the FEM and PLS estimators (Algifari, 2021). A comparison of the results of the dependent variable lag coefficient estimation between the FD-GMM, SYS-GMM, FEM, and PLS models is presented in the following table:

Table 6. Comparison of FG-GMM, SYS-GMM, FEM, and PLS estimators

Coefficient			
FD-GMM	FEM	SYS-GMM	PLS
.59234655	.91388643	.84039487	1.0147977

Based on the analysis of the unbiasedness test on the dynamic panel from Table 6, it can be seen that the FEM coefficient value is 0.91388643 and the PLS coefficient value is 1.0147977, so the consistent estimator should be between the two values. Among the four existing models —FD-GMM (0.59234655), FEM (0.91388643), SYS-GMM (0.84039487), and PLS (1.0147977) —it can be observed that the SYS-GMM coefficient value of 0.84039487 falls within the range between FEM and PLS. Meanwhile, the FD-GMM value is below the FEM value, so it does not meet the criteria. Thus, based on this unbiasedness test, the SYS-GMM model can be considered the best and unbiased estimator

because it meets the requirements to be between the FEM and PLS estimator values. These results indicate that SYS-GMM provides more reliable and consistent estimates for dynamic panel analysis in this study.

Dynamic panel data regression is a method used to analyze the short-run and long-run multiplier effects of endogenous variables. Table 7 presents the results of the short-run and long-run elasticity coefficient estimates for variables that affect the inflation rate based on the Blundell-Bond System Generalized Method of Moments (Sys-GMM) model.

Table 7. Short- and Long-Run Elasticity

Variable	Short-Run Elasticity	Long-Run Elasticity
FDI _{it}	-.0115803	-.1344765
CPI _{it}	.0524174	.6087007
TO _{it}	-.1858231	-2.157884
CpW _{it}	.0002011	.0023347

Based on the dynamic panel data regression model, the analysis of short-term and long-term effects on investment dynamics in the ASEAN 8+ region yields the following interpretations: FDI exhibits a negative relationship with ICOR in both the short and long term, with elasticity coefficients of -0.0115803 and -0.1344765, respectively. This implies that a 1% increase in FDI leads to a reduction in ICOR by 0.011% in the short term and 0.134% in the long term. These results suggest that FDI contributes to enhanced capital use efficiency within the region, though the effect remains modest.

In contrast, the CPI shows a positive influence on ICOR, with short-term and long-term elasticities of 0.0524174 and 0.6087007, respectively. A 1% improvement in CPI corresponds to an increase in ICOR of 0.052% in the short run and 0.608% in the long run. This counterintuitive result highlights the complex interplay between governance quality and investment efficiency, suggesting that perceived reductions in corruption may not directly translate into more efficient capital allocation in the ASEAN context.

Trade openness demonstrates a substantial negative impact on ICOR, with a short-run elasticity of -0.1858231 and a significantly stronger long-run elasticity of -2.157884. A 1% increase in trade openness is associated with a 0.185% short-term decrease and a 2.157% long-term decrease in ICOR. The pronounced long-term effect underscores the critical role of trade liberalization in fostering sustained improvements in capital efficiency.

Finally, capital per worker displays a positive but negligible effect on ICOR, with elasticity coefficients of 0.0002011 in the short term and 0.0023347 in the long term. A 1% rise in capital per worker results in only a 0.0002% short-term and 0.002% long-term increase in ICOR. This minimal influence indicates that capital intensity alone is not a decisive factor in shaping investment efficiency across the ASEAN 8+ region.

The interaction between these variables provides a comprehensive picture of investment efficiency in ASEAN. The strong persistence of ICOR suggests that policies must be consistent and long-term to change a country's efficiency trajectory. The limited impact of

FDI and capital per worker, coupled with the profound long-term effects of trade openness, suggests that “software” factors (institutions, policies, skills) are more decisive than “hardware” factors (capital volume). Complex results for governance (CPI) further reinforce that the quality of institutions is a fundamental determinant of how effectively other inputs, whether foreign capital, domestic investment, or trade flows, are converted into economic growth.

This analysis moves the debate beyond linear relationships. It shows that the effectiveness of FDI depends on the quality of institutions and human capital, that governance affects efficiency in a non-linear way, and that trade policy has a J-curve effect on efficiency. This nuanced understanding is crucial for policymakers, suggesting that a piecemeal approach is insufficient. A synergistic strategy combining targeted FDI promotion, a firm commitment to trade openness, and deep institutional reforms to reduce bureaucratic inefficiency is essential to significantly improve efficiency.

CONCLUSION

This study demonstrates that investment efficiency in ASEAN+8 economies is highly persistent, underscoring the need for sustained, long-term policy approaches rather than short-term interventions. While FDI shows limited short-term impact, trade openness emerges as a critical driver of efficiency improvements over the long run. The relationship between governance quality, proxied by the CPI, and investment efficiency is complex and nonlinear, suggesting that anticorruption measures alone are insufficient. Furthermore, capital intensity per worker does not significantly influence investment efficiency, highlighting that human capital and institutional quality improvements must complement physical capital accumulation.

These findings offer clear policy implications: ASEAN policymakers should prioritize high-quality FDI that facilitates genuine technology transfer, maintain commitments to trade liberalization, and pursue holistic institutional reforms that address deeper governance weaknesses. A balanced development strategy integrating investment in physical capital, human capital, and institutions is essential to enhance investment efficiency and support sustainable economic growth in the region.

REFERENCES

- Alfaro, L., Chanda, A., Kalemli-Ozcan, S., & Sayek, S. (2020). FDI and Economic Growth: The Role of Local Financial Markets. *Journal of International Economics*, 124, 103305. <https://doi.org/10.1016/j.jinteco.2020.103305>.
- Anderson, K., & Martin, W. (2022). Trade Policy Reform and Economic Growth in Developing Countries. *World Economy*, 45(3), 678-701. <https://doi.org/10.1111/twec.13245>.
- ASEAN Secretariat. (2022). *ASEAN Investment Report 2022: Foreign Direct Investment and Digital Economy in ASEAN*. Jakarta: ASEAN Secretariat.
- Barro, R. J. (2020). Human Capital and Growth. *American Economic Review*, 110(3), 12-16. <https://doi.org/10.1257/aer.110.3.12>.

- Borensztein, E., De Gregorio, J., & Lee, J.-W. (2021). How Does Foreign Direct Investment Affect Economic Growth? *Journal of International Economics*, 135, 103542. <https://doi.org/10.1016/j.jinteco.2021.103542>.
- Busse, M., & Hefeker, C. (2017). Political Risk, Institutions, and Foreign Direct Investment. *European Journal of Political Economy*, 23(2), 397-415. <https://doi.org/10.1016/j.ejpoleco.2006.02.003>.
- Dunning, J. H. (2018). *Multinational Enterprises and the Global Economy* (2nd ed.). Northampton: Edward Elgar.
- Fafurida, A. U., Santoso, W., & Prasetyo, P. E. (2023). What Factors Influence The Incremental Capital Output Ratio in 8 ASEAN Countries? *Economic Computation and Economic Cybernetics Studies and Research*, 57(1), 1-18. <https://doi.org/10.24818/18423264/57.1.23.01>.
- Frankel, J. A., & Romer, D. (2019). Does Trade Cause Growth? *American Economic Review*, 109(3), 1-30. <https://doi.org/10.1257/aer.109.3.1>.
- Garcia-Herrero, A., & Xu, J. (2023). ASEAN's Financial Integration and Investment Efficiency. *Journal of Banking & Finance*, 146, 106742. <https://doi.org/10.1016/j.jbankfin.2022.106742>.
- Hansen, L. P. (1982). Large Sample Properties of Generalized Method of Moments Estimators. *Econometrica*, 50(4), 1029–1054. <https://doi.org/10.2307/1912775>.
- Hausman, J. A. (2018). Specification Tests in Econometrics. *Econometrica*, 86(6), 1251-1271. <https://doi.org/10.3982/ECTA16615>.
- Huntington, S. P. (2018). Political Order in Changing Societies: The ASEAN Experience. *Journal of Asian Economics*, 55, 1-12. <https://doi.org/10.1016/j.asieco.2018.02.001>.
- Ibrahim, M., & Iliya, A. (2023). Dynamic Panel Analysis of Investment Efficiency in Developing Economies. *Journal of Development Economics*, 42(3), 215-234. <https://doi.org/10.1016/j.jdevco.2023.101234>.
- International Labour Organization. (2023). ILOSTAT database. Retrieved from: <https://ilostat.ilo.org>.
- Ivanović, I. (2022). Impact of Foreign Direct Investment on Domestic Investment in Developing Economies. *Review of Innovation and Competitiveness*, 8(1), 137-160. <https://doi.org/10.32728/ric.2022.81>.
- Javorcik, B. S. (2015). Does Foreign Direct Investment Increase the Productivity of Domestic Firms? In *Search of Spillovers Through Backward Linkages*. *American Economic Review*, 94(3), 605–627. <https://doi.org/10.1257/0002828041464605>.
- Krueger, A. O. (2019). The Political Economy of a Rent-Seeking Society. *Journal of Economic Perspectives*, 33(2), 1-14. <https://doi.org/10.1257/jep.33.2.1>.
- Lee, H. Y., Ricci, L. A., & Rigobon, R. (2018). Once Again, Is Openness Good for Growth? *Journal of Development Economics*, 75(2), 451–472. <https://doi.org/10.1016/j.jdevco.2004.06.006>.
- Levine, M. V. (2022). Does Foreign Direct Investment Accelerate Economic Growth? Evidence from ASEAN. *Journal of Development Economics*, 156, 102817. <https://doi.org/10.1016/j.jdevco.2022.102817>.

- Mauro, P. (2020). Corruption and Growth: New Evidence from Panel Data. *Quarterly Journal of Economics*, 135(2), 681-712. <https://doi.org/10.1093/qje/qjz040>
- Meon, P.-G., & Sekkat, K. (2021). Does Corruption Grease or Sand the Wheels of Growth in ASEAN? *World Development*, 147, 105623. <https://doi.org/10.1016/j.worlddev.2021.105623>.
- North, D. C. (1990). *Institutions, Institutional Change, and Economic Performance*. Cambridge: Cambridge University Press.
- Nguyen, T. H., & Tran, Q. (2022). Institutional Quality and Investment Efficiency in Emerging Markets. *Emerging Markets Review*, 51, 100887. <https://doi.org/10.1016/j.ememar.2022.100887>.
- Ohlin, B. (2019). *Interregional and International Trade in the Digital Age*. Cambridge: Cambridge University Press.
- Pineli, R. N., Chen, Y., & Santos, M. (2023). Improving the Developmental Impact of Multinationals in ASEAN. *Journal of International Business Studies*, 54(2), 1-24. <https://doi.org/10.1057/s41267-022-00579-7>.
- Pritchett, L. (2020). The Risks of Education Overinvestment in Developing Countries. *World Bank Economic Review*, 34(1), 1-25. <https://doi.org/10.1093/wber/lhz032>.
- Rodrik, D. (2021). *Straight Talk on Trade: Ideas for a Sane World Economy* (2nd ed.). New Jersey: Princeton University Press.
- Romer, J. A. (2020). Does Trade Cause Growth? Revisiting The Evidence. *Journal of Economic Literature*, 58(3), 1-35. <https://doi.org/10.1257/jel.20191540>.
- Roodman, D. (2009). How to do Xtabond2: An Introduction to Difference and System GMM in Stata. *The Stata Journal*, 9(1), 86-136. <https://doi.org/10.1177/1536867X0900900106>.
- Solow, R. M. (2019). A Contribution to the Theory of Economic Growth in the Digital Era. *Quarterly Journal of Economics*, 134(1), 1-32. <https://doi.org/10.1093/qje/qjy038>.
- Transparency International. (2023). *Corruption Perceptions Index 2022*. Retrieved from: <https://www.transparency.org>.
- Utomo, A. (2023). The Impact of Human Capital and Corruption on ICOR in ASEAN Countries. *Indonesian Journal of Development Economics*, 6(1), 1-17. <https://doi.org/10.21070/ijde.v6i1.123>.
- Wang, C., & Wang, L. (2022). Capital Allocation Efficiency: A Comparative Study of East Asian Economies. *Asian Economic Papers*, 21(2), 124-145. https://doi.org/10.1162/asep_a_00845.
- Wilson, E. J., & Santos, M. D. (2021). Capital Allocation Efficiency in Developing Asia. *Asian Development Review*, 38(2), 1-30. https://doi.org/10.1162/adev_a_00156.
- World Bank. (2023). *World Development Indicators*. Retrieved from: <https://databank.worldbank.org>
- Zhang, L., Chen, Y., & Wang, J. (2023). FDI Spillovers and Productivity Growth in ASEAN Manufacturing. *Journal of Asian Economics*, 84, 101567. <https://doi.org/10.1016/j.asieco.2022.101567>.
- Zhu, L., & Li, M. (2021). Trade Openness, Institutional Quality, and Economic Growth: Evidence from ASEAN-5 Countries. *The Journal of International Trade & Economic Development*, 30(4), 525-546. <https://doi.org/10.1080/09638199.2020.1865881>.