The Influence of Macroeconomic Factors and Corruption on Human Development in ASEAN-7

Bagja Kurniawan[1], Dikdik Kusdiana[2], Restu A Suryaman[3], M Sidik Priadana[4]
{bagjakurniaone45@gmail.com[1], dikdikkusdiana@unpas.ac.id[2], restu.suryaman@unpas.ac.id[3], sidik.priadana.dim@unpas.ac.id[3] }

Economics Department, Universitas Pasundan, Bandung, Indonesia[1,2,3,4]

Abstract. Various economic and non-economic factors can influence the quality of human development. Therefore, this study aims to examine the effect of economic growth, inflation, and unemployment as economic variables and corruption as non-economic variable on human development in ASEAN 7 countries from 2012 to 2020. The research instrument uses multiple linear regression with panel data and moderate regression analysis (MRA). This study found that only economic growth and corruption had a significant effect on the panel regression analysis, whereas based on the results of the MRA analysis, corruption only played a role as an independent variable. The implication shows the importance of maintaining economic growth and eradicating corruption to promote human development in the ASEAN region. However, this study acknowledges its limitations and requires further research with different methodologies and data sources to provide a more comprehensive perspective on the complex relationships between variables that shape human development in the ASEAN region.

Keywords: Corruption, Economic Growth, Human Development, ASEAN

1 Introduction

The state government has a complex responsibility for advancing human development as part of the Millennium Development Goals (MDGs) to improve human welfare [1]. The Human Development Index (HDI) is used as a reference to measure the welfare of a country's population based on the dimensions of health, education, and standard of living. Human development is the main focus of the government's efforts to improve the welfare and prosperity of the people.

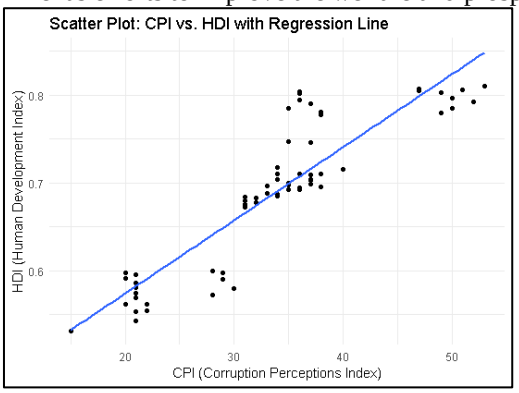

Fig.1. Scatter Plot : CPI vs. HDI in ASEAN 7

ICEBE 2023, September 13-14, Bandar Lampung, Indonesia

DOI 10.4108/eai.13-9-2023.2341207

Several studies [2], [3] have shown that there is a significant influence between economic growth and HDI increases. A linear causal relationship between increased economic growth and the quality of human development has been identified from the three main HDI indicators and several macroeconomic indicators such as economic growth, inflation, and unemployment. However, obstacles arose in realizing this development vision, one of which was corruption within government institutions. Research [4] has found that corruption has a negative impact on HDI. Another study [5] also revealed that corruption has a negative effect on corporate governance in developing countries. Likewise, based on the graph in figure 1, it shows that there is a positive relationship between HDI and the Corruption Perception Index (CPI). This positive relationship indicates that an increase in the CPI index in a country, indicating a decrease in corruption in that country, will result in an increase in the quality of its human development.

In ASEAN countries, there are interesting dynamics related to human development. Several countries have experienced rapid economic growth but are still facing challenges in improving people's quality of life. Economic and social disparities between urban and rural areas, as well as between community groups, are important issues [6]. In addition, inflation and fluctuating reactions also affect economic stability and people's welfare [7]. Equally important, corruption is a chronic problem that undermines government efforts to improve human development [8], [9]. This phenomenon shows the importance of analyzing the complex interaction between economic and social factors, including per capita GDP growth, inflation, war, and corruption, in forming the Human Development Index (HDI) in the ASEAN region. Therefore, this study aims to comprehensively investigate the effect of per capita GDP, inflation, war, and corruption on human development in seven ASEAN countries in the 2012–2020 period. In addition, this research will also explore the moderating effect of corruption on the relationship between GDP per capita, inflation, and responses to human development. It is hoped that this research will provide valuable insights for the academic world and the government in formulating policies to enhance human development.

2 Study Literatur

Human development is a central goal for every country, and in order to understand the factors that characterize the course of this development, various economic and social theories have come to the fore. One significant approach is the Capability Approach proposed by Amartya Sen. This theory prioritizes individual freedom in achieving their life aspirations and underscores that true development is not only limited to economic growth but must also include improving the quality of life of the people. Sen notes that inequality and social deprivation are strong walls in the course of human development [10]

Accordingly, in the context of economic growth, the Solow-Swan Model offers a view of the link between economic growth and human development. This model shows that economic growth can trigger an improvement in the quality of life through capital accumulation and technological breakthroughs [11]. However, other economic factors, such as inflation and unemployment, also have an important influence on human development. The Phillips curve illustrates the compromise between inflation and unemployment. Although initially there is an inverse relationship between the two, this can change over time. This concept highlights the prudent monetary and fiscal policies needed by the government to achieve the goals of economic growth and stability [12].

In another dimension, Rent-Seeking Theory reveals how corrupt behavior and rent-seeking efforts can divert the flow of human development by undermining the efficient distribution of

resources. This theory describes how corrupt practices have the potential to harm society and hinder investment and overall economic development [13].

Several previous empirical studies have looked at the relationship between macroeconomic variables and corruption with the Human Development Index (HDI) in ASEAN countries. Research conducted by [14] found that there is a positive relationship between economic growth and human development. Meanwhile, according to research results from[15], it was found that there was a negative relationship between the inflation rate and human development. Research conducted by [16] found that the unemployment rate had a negative relationship to human development. And research conducted by [17] found that there is a negative relationship between corruption and human development.

Table 1. Emirical Research

Author(s)	Variabel(s)	Sample	Methodology	Empirical Finding
Fauzi Hussin & Nooraini Saidin	GDP and HDI	Asean Countries	Panel data analysis	GDP + HDI
Viktoriia Koilo	Inflation and HDI	Asean Countries	Panel data analysis	Inflation - HDI
Muslim Kami & Marshal Imar Pratama	Unemployment and HDI	Asean Countries	Panel data analysis	Unemployment - HDI
Dendy Syaiful Akbar, Dede Abdul Rozal, Benny Prawinegara, Eva Faridah	CPI and HDI	Asean Countries	Panel data analysis	Corruprion - HDI

3 Data and Method

This study uses several variables in its analysis. This study uses human development as the dependent variable, as measured by the Human Development Index (HDI) from the United Nations Development Program (UNDP). The independent variables consist of per capita GDP growth (GDPPC), inflation rate, and unemployment rate, whose data are obtained from the World Bank. The moderating variable is corruption as measured by the Corruption Perception Index (CPI) from Transparency International.

The data used is panel data with the composition of time series data from 2012–2020 and cross-section data from 7 ASEAN countries, which consist of Indonesia, Cambodia, Malaysia, Myanmar, the Philippines, Thailand, and Vietnam. The analytical instrument used in this research is a multiple linear regression analysis approach to panel data and Moderated Regression Analysis (MRA). The MRA method is used to determine the moderating effect caused by corruption in influencing the relationship between independent variables and HDI. Panel data multiple linear regression is used to analyze the direct effect of GDPPC, inflation, unemployment, and CPI on HDI. After modeling, testing is carried out to select a model using the Chow, Hausman, and Lagrange Multiplier tests to determine the right model. Followed by testing the classical assumptions for the selected model. Based on the opinions of [18]–[20], the classic assumption test used in this study only uses heteroscedasticity and multicollinearity tests. Furthermore, hypothesis testing is carried out with partial, simultaneous tests and the coefficient of determination. The following is the estimation model used for panel data regression:

$$HDI_{it} = \beta_0 + \beta_1 GrGDPPC_{it} + \beta_2 INF_{it} + \beta_3 UEM_{it} + \beta_4 CPI_{it} + \varepsilon_{it} \quad (1)$$

Where HDI = Human Development, GrGDPPC = GDP Per Capita growth, INF = inflation rate, UEM = unemployment rate, CPI = corruption, and ε = Error Term, namely the level of error in estimating research. Apart from these variables, based on existing theory, it is stated that there are also several variables that might also influence HDI, such as economic inequality, access to education, and access to health services. These three things are variables that represent the three components that make up HDI. To analyze the moderating effect of corruption, three regression models are used to moderate the relationship between GDPPC, inflation, and unemployment with HDI. The following is the estimated model used for moderation regression:

$$HDI_{it} = \beta_0 + \beta_1 GrGDPPC_{it} + \beta_2 CPI_{it} + \beta_2 GrGDC_{it} + \varepsilon_{it} \quad (2)$$
$$HDI_{it} = \beta_0 + \beta_1 INF_{it} + \beta_2 CPI_{it} + \beta_2 INC_{it} + \varepsilon_{it} \quad (3)$$
$$HDI_{it} = \beta_0 + \beta_1 UEM_{it} + \beta_2 CPI_{it} + \beta_2 UEC_{it} + \varepsilon_{it} \quad (4)$$

Where GrGDC, INC, and UEC are the interaction variables between each independent variable and the moderating variable. If the value of β2 is significant but β3 is not, then corruption has a pure moderating effect. Conversely, if β2 is significant and β3 is also significant, corruption has a quasi-moderating effect. If β2 and β3 are not significant, then corruption acts as an independent variable and has no moderating effect.

4 Result

Descriptive Analysis

Table 1. Descriptive Data

Country	Average HDI Score	GDPPC Growth Average	Average Inflation Rate	Average Unemployment Rate	Average CPI Score
Indonesia	0.6978889	4.411304	3.321117	4.1866667	35.88889
Cambodia	0.5791111	6.015096	2.125761	0.3901111	20.77778
Malaysia	0.7983333	3.916640	1.135866	3.3504445	49.77778
Myanmar	0.5698889	6.494269	4.572138	0.9100000	24.77778
Philippines	0.7014444	4.818438	1.786378	2.8911111	35.11111
Thailand	0.7808889	2.426743	1.281257	0.6800000	36.44444
Vietnam	0.6891111	6.198593	3.199736	1.6411111	33.11111

Source : World Bank

In Table 1, it can be seen that there are significant variations in the level of human development in the region. Countries such as Malaysia and Thailand have high HDI scores, reflecting a better quality of life and advanced human development [21]. Meanwhile, Cambodia and Myanmar have lower HDI scores, indicating challenges in improving people's quality of life. There is an interesting relationship between economic and social variables and HDI. For example, countries with high GDP per Capita (GDPPC) growth, such as Myanmar and Cambodia, tend to have lower HDI scores, indicating that fast economic growth has not fully reflected an increase in people's quality of life [22]. Likewise, low inflation and unemployment rates in Malaysia and Vietnam have a positive impact on human development, indicating the importance of economic stability in improving people's quality of life [23]. Lower levels of corruption in Malaysia and Thailand are also associated with higher HDI scores, highlighting

the importance of good governance in supporting human development [24]. This analysis highlights the complex relationship between economic and social variables and human development in ASEAN and reinforces the importance of policies focused on inclusive economic growth, stability, and good governance in achieving sustainable human development in the region.

Panel Data Analysis

Based on the test results to select the right panel data regression model, the results of the chow test are as follows:

Table 2. Chow Test Output

F test for individual effects		
F= 58.118	df1 = 6, df2=52	p-value < 2.2e-16

From the results of the Chow test, it was found that the p-value was less than 5%. This indicates that, based on the Chow test, the fixed effect model is the most appropriate model. After that, another test was carried out using the Hausma test to compare the fixed model as the selected model from the Chow test with the random effect model. The following are the results of the Hausman test:

Table 3. Hausman Test Output

Hausman Test		
Chisq=16.104260	Df = 4	p-value = 0.0029

Based on the results of the Hausman test, the p-value of the chi-square is less than 5%. This shows that, based on the results of the Hausman test, the fixed effect model is also the right model. So it was decided that in this research, the fixed effect model would be the chosen model. Following are the estimation results of the fixed effect model:

Table 4. Fixed Effect Model Estimation

Coefficients	**Estimate**	**t-value**	**Pr(>|t|)**	
(Intercept)	0.585457	24.16633	0.000000	***
GrGDPPC	-0.001541	-3.022182	0.003889	**
INF	-0.000222	-0.242990	0.808969	
UEM	-0.004956	-1.048307	0.299345	
CPI	0.003581	5.278063	2.585e-06	***
Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1				
R-Squared			0.980938	
F-statistic			p-value	
267.5869			0.000000	

After setting the model for panel data regression, it is continued by proposing several classical assumption test parameters. The following are the results of the heteroscedasticity test using the Breusch-Pagan method:

Table 5. Heteroscedasticity Test Output

Studentized Breusch-Pagan test		
BP = 7.1837	Df= 4	p-value = 0.1265

Based on the results of the heteroscedasticity test, a probability result of 0.1265 is obtained, which is a value greater than 5%. This indicates that the model is free from the assumption of heteroscedasticity. Next are the results of the multicollinearity test:

Table 6. Multicollinearity Test Output

	GrGDPPC	**INF**	**UEM**	**CPI**
GrGDPPC	1.0000000			
INF	0.2825134	1.00000000		
UEM	-0.1301304	-0.1083226	1.0000000	
CPI	-0.2526358	-0.3365814	0.6351681	1.000000

According to [25], if the correlation between the independent variables is greater than 0.9, it means that the model indicates multicollinearity. Likewise with the opinion of [26], the indication of multicollinearity will cause the regression estimator to have large variances and covariances, wide estimation intervals, and smaller t-test values. Correlation coefficient values between predictor variables Based on the table, it shows that the correlation value between the independent variables is below 0.9, so this shows that the model is not indicated by multicollinearity and the model meets the BLUE requirements. Based on the model estimation results table, the p-value for the F statistic is 0.00000, meaning that all independent variables used in this study are simultaneously able to have a significant effect on HDI in 7 ASEAN countries. Meanwhile, if viewed partially, the result is that the estimated intercept value is 0.585457 (t-value = 24.16633, Pr(>|t|) = 0.000000), indicating the significance of the intercept when the independent variable is zero. The GrGDPPC coefficient of -0.001541 (t-value = -3.022182, Pr(>|t|) = 0.003889) indicates a significant negative impact on HDI, suggesting high GDPPC growth is associated with a lower HDI. The inflation variable has a coefficient of -0.000222 (t-value = -0.242990, Pr(>|t|) = 0.808969) with no significant effect on HDI, indicating a tendency, although not significant, that high inflation is associated with a decrease in HDI. The unemployment variable has a coefficient of -0.004956 (t-value = -1.048307, Pr(>|t|) = 0.299345), which is not significant to HDI, indicating a non-significant tendency that a high unemployment rate is associated with a decrease in HDI. The variable coefficient of corruption (CPI) of 0.003581 (t-value = 5.278063, Pr(>|t|) = 2.585e-06) indicates a significant effect of corruption on HDI.

Moderated Regression Analysis

The following is the result of an analysis to see the moderating effect caused by corruption on the relationship between GDPPC growth, inflation, and unemployment on HDI:

Table 7. Output Estimation of MRA Influence of GDPPC Growth Against HDI

Coefficients	**Estimate**	**t-value**	**Pr(>|t|)**	
(Intercept)	0.587969	23.74402	0.000000	***
GrGDPPC	-0.003099	-1.5299	0.1320	
CPI	0.003205	4.4687	4.171e-05	***
GrGDC (GrGDPPC*CPI)	4.64e-05	0.8248	0.4132	
Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1				

R-Squared	0.980781
F-statistic	p-value
300.5256	0.000000

Table 8. Output Estimation of MRA Influence of Inflation Against HDI

Coefficients	Estimate	t-value	Pr(>|t|)	
(Intercept)	0.568545	18.78149	0.0000000	***
INF	-0.000594	0.151737	0.8799708	
CPI	-0.003580	4.074970	0.0001548	***
INC (INF*CPI)	-3.33e-05	-0.27440	0.7848136	
Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1				
R-Squared			0.977439	
F-statistic			p-value	
255.1366			0.000000	

Table 9. Output Estimation of MRA Influence of Unemployment Against HDI

Coefficients	Estimate	t-value	Pr(>|t|)	
(Intercept)	0.596215	19.59831	0.000000	***
UEM	-0.013751	-0.958962	0.341932	
CPI	0.003133	3.428565	0.001182	**
UEC (UEM*CPI)	0.000312	0.833027	0.408568	
Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1				
R-Squared			0.977715	
F-statistic			p-value	
258.3642			0.000000	

Based on tables 7, 8, and 9, the results of the estimated moderated regression analysis for each MRA model show that only the CPI variable has a significant effect. This shows that corruption is only able to influence HDI as an independent variable in 7 ASEAN countries and is unable to provide a moderating effect on the relationship between GDPPC growth, inflation, and unemployment in affecting HDI.

5 Discussion

The estimation results show that in this research model, GDPPC growth and corruption (CPI) have a significant influence on the Human Development Index (HDI). However, inflation, unemployment, and interceptions do not have a significant effect on HDI. The positive effect of GDPPC growth on HDI is in line with economic theory, which states that strong economic growth can increase human welfare and progress. More resources generated by high economic growth can be allocated to improve education, health, and infrastructure, which ultimately contributes to an increase in HDI [27]. The negative effect of corruption on HDI is also consistent with previous studies, which show that corruption harms the economy and society. Corrupt practices lead to inefficient allocation of resources, decreased investment, and inequality in the distribution of wealth, all of which can lead to reduced quality of life and restrictions on people's access to basic services [28].

The estimation results of the Moderated Regression Analysis (MRA) also show that in this model, only the CPI (corruption) variable has a significant influence on the Human Development Index (HDI). This shows that corruption has a direct negative effect on HDI in 7 ASEAN countries without providing a moderating effect on the relationship between GDPPC growth, inflation, and unemployment and HDI.This finding is interesting because it was previously hypothesized that corruption would act as a moderating factor in the relationship between other economic variables and HDI. However, this research suggests that corruption may act more as an independent factor that directly affects HDI. Based on economic explanations, these results can be interpreted as indicating that corruption can lead to wastage of resources, injustice in the distribution of wealth, and decreased investment, which in turn has a negative impact on human development. When corruption is high, funds that should be allocated for infrastructure development, education, and health can be diverted into the hands of corrupt individuals or groups. As a result, HDI levels may decrease as people's access to basic services and economic opportunities is limited.The results of this study are in line with many previous studies that found a negative relationship between corruption and human development [29]. Other research also shows that high levels of corruption can hinder economic growth and affect the quality of public services, which in turn has an impact on people's quality of life [30].

However, the presence of insignificant results for inflation and unemployment attracts attention. It can be explained that, in the context of this study, inflation and unemployment may not have a significant impact on HDI. Several previous studies have also found that the relationship between inflation, unemployment, and social welfare is not always consistent and can be influenced by various economic and social factors [31]. The results of this study provide important insights: economic growth and corruption prevention are the keys to increasing HDI.

6 Conclusion and Suggestion

The implication of the results of this study is that economic growth and corruption play a significant role in shaping human development in ASEAN countries. The panel data multiple linear regression results show that high economic growth and low levels of corruption contribute positively to the increase in the Human Development Index (HDI) in this region. However, when analyzed using Moderated Regression Analysis (MRA), corruption does not show a moderating effect on the effect of other variables such as per capita GDP growth, inflation, and unemployment on HDI.The economic implication of this result is that ASEAN countries must strengthen efforts to create sustainable economic growth and reduce corruption. High economic growth can promote human development by increasing per capita income and access to basic services. Meanwhile, handling corruption effectively can improve governance and ensure efficiency in the use of public resources, which will have a positive impact on the quality of human development.This result is in line with several previous studies that emphasized the important role of economic growth and tackling corruption in human development. For example, research by [32]. shows that clean and transparent institutions contribute to long-term economic growth and societal well-being. Likewise, research by [33]. Found that countries with lower levels of corruption tend to have better human development.

Based on the results of this study, it is expected that governments in ASEAN countries will be able to pay attention to the importance of maintaining sustainable economic growth and make further efforts to eradicate corruption. In an effort to improve human development, the government should focus on policies that can encourage inclusive and just economic growth while still paying attention to controlling inflation and unemployment. In addition, concrete steps to reduce the level of corruption in government are essential to creating an enabling

environment for human development that is sustainable and competitive. Thus, the government can play a significant role in ensuring the improvement of the quality of life and welfare of the people in the ASEAN region.

However, this research also has many limitations. As in the scope and methodology, the use of the number of observations still does not fully represent countries in the ASEAN region, as do the results of the MRA analysis which can be influenced by other factors that are not measurable in this study. Therefore, further research with different approaches and data can provide a more comprehensive perspective on the complex relationships between these variables in shaping human development in the ASEAN region.

7 Reference

[1] M. Hopkins, "Human development revisited: A new UNDP report," *World Dev*, vol. 19, no. 10, pp. 1469–1473, 1991.

[2] A. M. Emara, "The impact of corruption on human development in egypt," *Asian Economic and Financial Review*, vol. 10, no. 5, p. 574, 2020.

[3] S. Arka and I. K. O. A. Yasa, "Pengaruh pertumbuhan ekonomi dan disparitas pendapatan antardaerah terhadap kesejahteraan masyarakat Provinsi Bali," *Jurnal ekonomi kuantitatif terapan*, vol. 8, no. 1, p. 44328, 2015.

[4] J. C. Brada, Z. Drabek, J. A. Mendez, and M. F. Perez, "National levels of corruption and foreign direct investment," *J Comp Econ*, vol. 47, no. 1, pp. 31–49, 2019.

[5] M. I. Caron, A. Ficici, and C. L. Richter, "The influence of corruption on corporate governance standards: Shared characteristics of rapidly developing economies," *EMAJ: Emerging Markets Journal*, vol. 2, no. 1, pp. 21–37, 2012.

[6] A. B. Atkinson, "On the measurement of inequality," *J Econ Theory*, vol. 2, no. 3, pp. 244–263, 1970.

[7] G. S. Cheema and L. Maguire, "Governance for human development: the role of external partners," *Public Administration and Development*, vol. 21, no. 3, pp. 201–209, 2001.

[8] M. Sarabia, F. Crecente, M. T. del Val, and M. Giménez, "The Human Development Index (HDI) and the Corruption Perception Index (CPI) 2013-2017: analysis of social conflict and populism in Europe," *Economic research-Ekonomska istraživanja*, vol. 33, no. 1, pp. 2943–2955, 2020.

[9] H. Djulius, X. Lixian, A. N. Lestari, and S. F. Eryanto, "The Impact of a Poor Family Assistance Program on Human Development in Indonesia," *Review of Integrative Business and Economics Research*, vol. 11, no. 4, pp. 59–70, 2022.

[10] J. Clapp, "Development as freedom." SAGE Publications Sage UK: London, England, 2000.

[11] R. M. Solow, "A contribution to the theory of economic growth," *Q J Econ*, vol. 70, no. 1, pp. 65–94, 1956.

[12] W. B. Reddaway, "The General Theory of Employment, Interest, and Money [1936]," in *Keynes' General Theory: Reports of Three Decades*, Springer, 1964, pp. 99–108.

[13] B. Keating, J. M. Buchanan, R. D. Tollison, and G. Tullock, "Toward a Theory of the Rent-Seeking Society," *Southern Economic Journal*, vol. 48, no. 3, p. 823, 1982, doi: 10.2307/1058683.

[14] F. Hussin and N. Saidin, "Economic Growth in ASEAN-4 Countries: A Panel Data Analysis," *International Journal of Economics and Finance*, vol. 4, no. 9, Jul. 2012, doi: 10.5539/ijef.v4n9p119.

[15] V. Koilo, “A methodology to analyze sustainable development index: evidence from emerging markets and developed economies,” *Environmental Economics*, vol. 11, no. 1, pp. 14–29, 2020, doi: 10.21511/ee.11(1).2020.02.
[16] M. Kamil and M. I. Pratama, “Openness, Digital and Human Development: Case Study of ASEAN Countries,” *Proceedings of the 2nd International Research Conference on Economics and Business*. SCITEPRESS - Science and Technology Publications, 2018. doi: 10.5220/0008785701870192.
[17] D. S. Akbar, D. A. Rozak, B. Prawiranegara, and E. Faridah, “Corruption, Accounting Practice and Economic Growth: Evidence of ASEAN Countries,” in *Proceedings of the 3rd Asia Pacific Management Research Conference (APMRC 2019)*, Paris, France: Atlantis Press, 2020. doi: 10.2991/aebmr.k.200812.016.
[18] B. H. Baltagi and F. Edition, “Professor Badi H. Baltagi (auth.)-Econometrics-Springer Berlin Heidelberg (2008)”.
[19] A. T. Basuki and N. Prawoto, “Analisis regresi dalam penelitian ekonomi dan bisnis,” 2016.
[20] E. Manik, A. Affandi, S. Priadana, D. Hadian, and D. A. Puspitaningrum, “Comparison of normality testing with chi quadrat calculations and tables for the statistical value departement of elementary school education student at the University of Jember,” in *AIP Conference Proceedings*, AIP Publishing LLC, 2023, p. 020018.
[21] M. S. Kovačević, “Human development indices and indicators: 2018 statistical update.” United Nations Development Programme, 2018.
[22] D. Bank, “World Bank Development Indicators. 2021.”
[23] K. E. Y. SERIES, “World Economic Outlook Database,” *Romania*, vol. 2022, no. 2023, p. 2024, 2021.
[24] C. P. Index, “Transparency International. January 2021.” 2020.
[25] G. Imam, “Aplikasi Analisis Multivariate dengan Program IBM SPSS 21 Update PLS Regresi,” *Semarang. Badan Penerbit Universitas Diponegoro. ISBN*, vol. 979, no. 015.1, 2013.
[26] Z. Zulfikar and M. Si, “Pengantar Pasar Modal Dengan Pendekatan Statistika,” *CV Budi Utama*, 2016.
[27] R. J. Barro and J. W. Lee, “A new data set of educational attainment in the world, 1950–2010,” *J Dev Econ*, vol. 104, pp. 184–198, 2013.
[28] P. Mauro, “Corruption and growth,” *Q J Econ*, vol. 110, no. 3, pp. 681–712, 1995.
[29] O. Blanchard and L. F. Katz, “Wage dynamics: reconciling theory and evidence,” *American Economic Review*, vol. 89, no. 2, pp. 69–74, 1999.
[30] T. Aidt, J. Dutta, and V. Sena, “Governance regimes, corruption and growth: Theory and evidence,” *J Comp Econ*, vol. 36, no. 2, pp. 195–220, 2008.
[31] Y. Hsing, “On the relationship between inflation and unemployment: New evidence from six industrialized nations,” *J Post Keynes Econ*, vol. 12, no. 1, pp. 98–108, 1989.
[32] D. Acemoglu, S. Johnson, and J. A. Robinson, “The colonial origins of comparative development: An empirical investigation,” *American economic review*, vol. 91, no. 5, pp. 1369–1401, 2001.
[33] A. Cooray, R. Dzhumashev, and F. Schneider, “How does corruption affect public debt? An empirical analysis,” *World Dev*, vol. 90, pp. 115–127, 2017.