

Regional Financial Performance and Human Development: Empirical Evidence from Regencies and Municipalities in Aceh

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Abstract

This study examines the effect of regional financial performance on the Human Development Index (HDI) across all regencies and cities in Aceh Province. Regional financial performance is proxied by five main ratios: fiscal decentralization ratio, regional financial independence ratio, effectiveness ratio of locally generated revenue (PAD), regional financial dependency ratio, and expenditure efficiency ratio. This study utilizes secondary data obtained from regional budget realization reports and HDI statistics published by the Central Statistics Agency (BPS) and the Directorate General of Fiscal Balance (DJPK) for the period 2020–2024. A quantitative approach is employed, using panel data regression on 23 regencies/municipalities, resulting in 115 observations. Model selection is conducted through Chow, Hausman, and Lagrange Multiplier tests, which indicate that the Common Effect Model (CEM) is the most appropriate specification. The findings indicate that the effectiveness ratio of PAD and the degree of fiscal decentralization have a positive and statistically significant effect on HDI, while the other variables are not significant at conventional levels. Collectively, all independent variables significantly influence HDI, with an R-squared value of 41.53 percent. These results highlight that optimal management of locally generated revenue can have a tangible impact on HDI.

Keywords: *Regional Financial Performance, Human Development Index, Fiscal Independence, Panel Data, Aceh.*

Introduction

National progress is often evaluated based on the quality of human resources (Jalil & Kamaruddin, 2018). The Human Development Index (HDI), introduced by the United Nations Development Programme (UNDP) in 1990, serves as a principal indicator for assessing human resource quality across three dimensions: health (measured by life expectancy), education (measured by years of schooling), and income (measured by GDP

per capita). The HDI is widely utilized to compare development achievements among countries and regions (Vasthare et al., 2019).

Human development outcomes in Aceh Province have demonstrated a positive trend. In 2024, the growth rate of the HDI was faster and more consistent than in previous years. During the 2020–2024 observation period, Aceh Province's HDI score increased, indicating improvements in quality of life across education, health, and per capita income sectors. The upward trend in these indicators is illustrated in Figure. 1, which presents the 2020–2024 Aceh Province HDI data

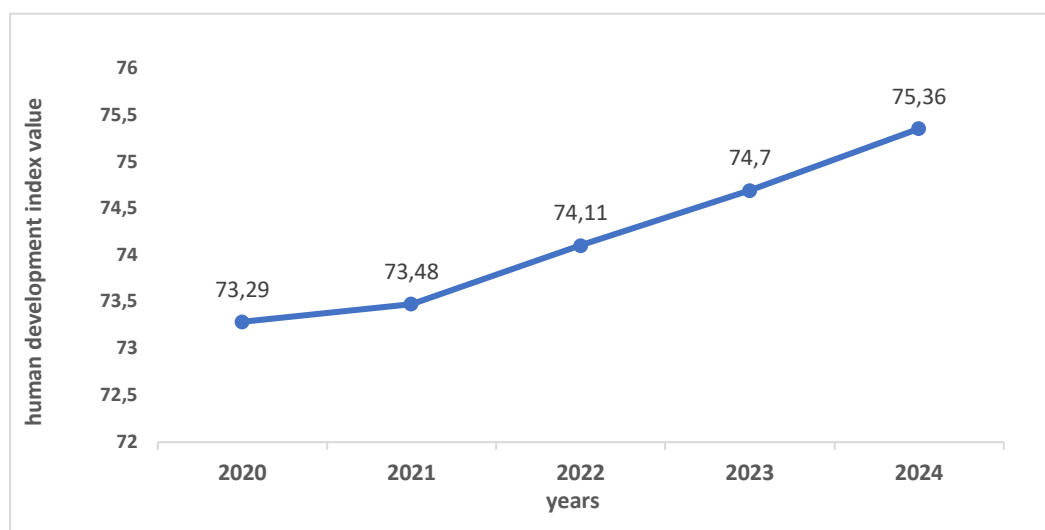


Figure 1. Aceh Province Human Development Index (HDI) Chart for 2020–2024

Source: Aceh Province Central Bureau of Statistics (2025)

Figure 1 shows that Aceh Province's Human Development Index (HDI) reached its highest value of 75.36 in 2024, which BPS classifies as high. The increase in HDI from 2020 to 2024 was supported by all HDI dimensions, with the most significant contribution from the decent standard of living (BPS Provinsi Aceh, 2025). The success of human development is closely associated with the financial performance of local governments. Human development achievements are often evaluated through the analysis of local government financial reports, which serve as tools for assessing financial performance.

The financial performance of local governments is inherently linked to regional autonomy and fiscal decentralization policies, which grant regions the authority to independently

manage financial resources. Aceh Province, designated as a special autonomous region through Law Number 11 of 2006 as part of the Helsinki MoU implementation, received broad authority, including the implementation of Islamic law and the management of natural resources. This regulation provided Aceh with extensive powers to manage its own resources, while central government intervention was limited, particularly in regional planning and budgeting (Republik Indonesia, 2004).

Previous studies have identified a relationship between regional financial performance and the Human Development Index (HDI), although the results vary (Sari & Riharjo, 2020),(Hardana & Nasution, 2022),(Harliyani & Haryadi, 2016). While all studies consistently used HDI as the dependent variable, the number and type of financial ratios analyzed differed. In Jambi City, both fiscal decentralization and direct expenditure positively impact HDI, whereas in East Java, only fiscal decentralization demonstrates a significant effect. Financial independence and locally generated revenue (PAD) show no influence in these contexts. In Padangsidempuan, the PAD ratio is the most dominant factor affecting HDI. Previous studies mainly focused on fiscal decentralization, regional financial independence, and locally generated revenue as determinants of the Human Development Index. However, limited studies have incorporated the regional expenditure efficiency ratio as an explanatory variable, particularly in special autonomous regions such as Aceh Province. In addition, empirical findings regarding the relationship between regional financial performance and HDI remain inconsistent across regions. Therefore, this study seeks to fill the existing research gap by comprehensively examining the effect of regional financial performance on HDI in Aceh Province during the 2020–2024 period.

This study assesses government financial performance using several indicators: the regional own-source revenue effectiveness ratio, the fiscal decentralization degree ratio, the financial independence ratio, the regional spending efficiency ratio, and the financial dependency ratio. The objective is to examine both the partial and simultaneous influence of each ratio on the Human Development Index (HDI).

Literature Review

Fiscal Decentralization. Fiscal decentralization involves transferring authority over financial resource management from the central government to local governments to improve efficiency in public service provision (Oates, 2018). According to the Decentralization Theorem, local governments possess a deeper understanding of community needs and preferences, which enables more efficient resource allocation than the central government. In Aceh, fiscal decentralization resulted from the Helsinki Memorandum of Understanding and was implemented by the central government through Law Number 11 of 2006 on Aceh Governance (Undang-Undang (UU) Nomor 11 Tahun 2006 Tentang Pemerintahan Aceh, 2006). This policy provides the primary legal foundation, granting district and city governments the authority to allocate expenditures based on regional priorities, including initiatives to enhance the Human Development Index (HDI).

Government Financial Performance. Regional financial performance indicates the capability of local governments to manage fiscal resources for funding operations, delivering optimal public services, and achieving measurable, accountable, and transparent development. Effective financial management, especially in capital expenditures, positively influences the quality of regional development implementation [10]. Evaluation of these outcomes requires the use of financial indicators, typically expressed as ratios, to objectively represent the state of financial management.

Human Development Index (HDI). The Human Development Index (HDI) is a summary measure reflecting a country's achievements in basic human development, calculated using three main components: life expectancy, mean years of schooling, and gross national income per capitata (Urzúa & Vilbert, 2023). As a composite indicator, the HDI assesses quality of life through the dimensions of health, education, and income per capita.

Fiscal Decentralization Ratio. The degree of fiscal decentralization is measured by comparing Local Own-Source Revenue (PAD) to Total Regional Revenue. This ratio reflects the contribution of PAD to total regional revenue. A higher PAD contribution indicates a greater capacity for local governments to implement decentralization. Accordingly, the following hypothesis is proposed: H1: The fiscal decentralization ratio positively affects the

Human Development Index (HDI). The fiscal decentralization ratio is calculated using the following formula (Jumati et al., 2023).

$$\frac{\text{Regional Local Revenue}}{\text{Revenue Total}} \times 100\%$$

Regional Financial Independence Ratio. The regional financial independence ratio is calculated by comparing total locally generated revenue (Pendapatan Asli Daerah, PAD) to the total revenue derived from central government transfers, provincial government transfers, and regional loans. A higher regional independence ratio indicates improved financial autonomy, signifying that the region is less dependent on central government transfers (Afifah et al., 2023). Regional financial independence reflects optimal government performance in funding all regional affairs, which subsequently impacts Human Development Index (HDI) indicators such as health, education, and economic growth [14]. Therefore, the following hypothesis is proposed: H2, the regional financial independence ratio has a positive effect on the HDI. Mathematically, the regional financial independence ratio can be calculated using the following formula (Jumati et al., 2023).

$$\frac{\text{Regional Local Revenue}}{\text{Central} + \text{Provincial} + \text{Loan Transfer}} \times 100\%$$

Effectiveness Ratio of Regional Original Revenue. This ratio is used to measure the extent to which the realization of Regional Original Revenue (PAD) meets the targets set in the Regional Revenue and Expenditure Budget (APBD) (Faradilla & Hanifa, 2024). As an autonomous region in Indonesia, Aceh Province is expected to maximize revenue from PAD, as PAD is considered more significant than other sources of income. Furthermore, PAD constitutes a financial resource collected locally, making the optimization of PAD sources essential for enhancing regional financial capacity (Tjahjono & Oktavianti, 2017). The effectiveness of government performance, particularly in terms of PAD effectiveness, should be reflected in an increase in the Human Development Index (HDI) in a given region. Therefore, the following hypothesis is proposed: H3: The effectiveness ratio of PAD has a

positive effect on HDI. The formula for calculating the Effectiveness Ratio of PAD is provided in (Seran, 2022).

$$\frac{\text{Realization of Regional Local Revenue}}{\text{Target of Regional Local Revenue}} \times 100\%$$

Regional Financial Dependency Ratio. The regional financial dependency ratio is determined by comparing total transfer receipts within regional revenue to the overall regional revenue. This ratio measures the degree to which local governments rely on the central government (Juliarti et al., 2022). Accordingly, the following hypothesis is proposed: H4: The regional financial dependency ratio has a positive effect on the Human Development Index (HDI). The formula for calculating the regional financial dependency ratio is provided in (Octavia et al., 2024).

$$\frac{\text{Transfer Revenue}}{\text{Revenue Total}} \times 100\%$$

Regional Spending Efficiency Ratio. The regional spending efficiency ratio measures the costs incurred to generate revenue relative to the actual revenue received. Regional government performance is considered efficient when this ratio is less than 100%. A lower ratio indicates greater financial efficiency for the regional government [20]. Accordingly, hypothesis H5 is proposed: The efficiency ratio of spending negatively affects the Human Development Index (HDI). The formula for calculating the regional spending efficiency ratio is as follows.

$$\frac{\text{Realization of Expenditure}}{\text{Expenditure Budget}} \times 100\%$$

Research Methods

A quantitative research design with a causality approach was utilized to empirically examine the influence of local government financial performance ratios on the Human Development Index (HDI). The study employed panel data from regencies and cities in Aceh Province for the period 2020 to 2024. Secondary data were sourced from Budget Realization Reports (APBD) provided by the Directorate General of Fiscal Balance (DJPK) and HDI data from the Central Statistics Agency (BPS). The panel data structure comprised 23 regencies and cities observed over five years, resulting in 115 observations. Panel data regression analysis was conducted using the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The Chow and Hausman tests were applied to select the most consistent and efficient model. All data processing was conducted using Stata 19 software.

Results and Discussion

Descriptive Statistics. Descriptive statistics summarize and characterize the data utilized in this study. The results of the descriptive analysis are presented in Table 1 (Dong, 2023).

Table 1. Descriptive Statistical Analysis

Variable Obs	Mean	Std. dev.	Min	Max
IPM 115	.738653	.0441269	.6739	.8885
RE 115	1.124148	.6664551	.5447539	7.334845
REBD 115	.9927274	.3204246	.3188468	3.680385
RK 115	.3331059	.3857241	.0171791	2.268055
RDDF 115	.1003316	.0368673	.0168519	.2406824
RKK 115	.6877637	.2713552	.097177	.980954

Source: Stata 19 (2026)

Table 1 summarizes the minimum, maximum, and average values of the variables examined across 23 regencies and cities in Aceh Province from 2020 to 2024. The Human Development Index (HDI) ranged from a minimum of 0.6739 in Subulussalam City in 2020 to a maximum of 0.8885 in Banda Aceh City in 2024. The mean HDI was 0.738653. A standard deviation of 0.0441269, which is lower than the mean, indicates limited variation in HDI values, suggesting homogeneity in the data. The Revenue Effectiveness Ratio (RE) ranged from a minimum of 0.5447539 in Simeulue Regency in 2021 to a maximum of 7.334845 in Subulussalam City in 2022. The mean RE ratio was 1.124148. The standard deviation of 0.6664551, which exceeds the mean, demonstrates substantial variability in the data, indicating heterogeneity.

The Regional Expenditure Efficiency Ratio (REBD) ranged from a minimum of 0.3188468 in Central Aceh Regency in 2020 to a maximum of 3.680385 in Pidie Regency in 2023. The mean REBD ratio was 0.9927274. A standard deviation of 0.3204246, which is less than the mean, indicates low variation in the efficiency spending ratio, suggesting homogeneity in the data. The Regional Financial Independence Ratio (RK) ranged from a minimum of 0.0171791 in Subulussalam City in 2022 to a maximum of 2.268055 in Banda Aceh City in 2024. The mean regional financial independence ratio was 0.3331059. A standard deviation of 0.03857241, which exceeds the mean, indicates high variability in the independence ratio, reflecting heterogeneity in the data.

The Fiscal Decentralization Degree Ratio (RDDE) ranged from a minimum of 0.0168519 in Subulussalam City in 2022 to a maximum of 0.2406824 in Banda Aceh City in 2024. The mean RDDE was 0.1003316. A standard deviation of 0.0368673, which is less than the mean, indicates low variation in the fiscal decentralization degree ratio, suggesting homogeneity in the data. The Regional Financial Dependency Ratio (RKK) ranged from a minimum of 0.097177 in Sabang City in 2023 to a maximum of 0.980954 in Subulussalam City in 2022. The mean RKK was 0.6877637. A standard deviation of 0.2713552, which is less than the mean, indicates low variation in the regional financial dependency ratio, suggesting homogeneity in the data.

Selection of Panel Data Regression Model. The selection of the panel data regression model involves three testing stages: the Common Effect Model (CEM), the Fixed Effect Model (FEM), and the Random Effect Model (REM).

Chow Test. The results of the Chow test show that the Prob > F value is 0.0000, which is less than the threshold of 0.05. This finding indicates that the Fixed Effect Model (FEM) is more appropriate than the Common Effect Model (CEM) (Lazuardi & Asiyah, 2025). Consequently, the analysis proceeds to the Hausman test.

Table. 2 Chow Test

F(22, 87) = 92.78
Prob > F = 0.0000

Source: Stata 19 (2026)

Hausman Test Result. The Hausman test yields a Prob>chi2 value of 0.9574, which exceeds the 0.05 threshold. As a result, the Random Effects Model (REM) is deemed more appropriate than the Fixed Effects Model (FEM). Subsequently, the analysis proceeds with the Lagrange Multiplier test [23].

Table. 3 Hausman Test

chi2(5) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 1.06
Prob > chi2 = 0.9574

Source: Stata 19 (2026)

Lagrange Multiplier Test Results. The Lagrange Multiplier test produced a Prob > chibar2 value of 1.0000, which exceeds the 0.05 threshold. This result indicates that the Common Effect Model (CEM) is more appropriate than the Random Effect Model (REM) (Ramandani Havi Novita, 2024). As shown in Table 4, the probability value of 1.0000 further supports the selection of CEM as the optimal model for this study. Across all stages of panel data regression model testing, the Common Effect Model (CEM) was determined to be the most suitable for this research.

Table. 4 Lagrange Multiplier Test

chibar2(01) = 0.00
Prob > chibar2 =1.0000

Source: Stata 19 (2026)

Estimation of the Common Effects Model (CEM). Analysis of panel data regression models demonstrates that the Common Effects Model (CEM) is the most appropriate choice for this study.

Table 5. Common Effect Model

Source	SS	df	MS	Number of obs	=	115
Model	.092178307	5	.018435661	F(5, 109)	=	15.48
Residual	.129800799	109	.001190833	Prob > F	=	0.0000
				R-squared	=	0.4153
				Adj R-squared	=	0.3884
Total	.221979106	114	.001947185	Root MSE	=	.03451

IPM	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
RE	.0114053	.0052142	2.19	0.031	.0010709	.0217396
REBD	-.0014976	.01022	-0.15	0.884	-.0217534	.0187581
RK	.0126433	.0096168	1.31	0.191	-.0064169	.0317036
RDDF	.7594657	.0994754	7.63	0.000	.5623087	.9566227
RKK	.0033714	.0131386	0.26	0.798	-.0226688	.0294117
_cons	.6445899	.0195749	32.93	0.000	.605793	.6833867

Source: Stata 19 (2026)

Panel Data Regression Estimation. This study employs panel data regression analysis to examine the influence of independent variables (x1, x2, x3, x4, x5) on the dependent variable (Y) (sinta et al., 2026). The formula used is as follows:

$$IPMit = \alpha + \beta_1 REit + \beta_2 REBDit + \beta_3 RKit + \beta_4 RDDFit + \beta_5 RKKit + \dots \dots \dots (1)$$

Descriptions:

Y = Human Development Index (HDI) variable

A = Constant term

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = Regression coefficients

RE = Regional own-source revenue effectiveness ratio

REBD	= Regional expenditure efficiency ratio
RK	= Regional financial independence ratio
RDDF	= Fiscal Decentralization Degree Ratio
RKK	= Regional financial dependency ratio
e	= Error or residual term
I	= Regency or municipal government
t	= Time period

The Common Effect Model (CEM) is considered an appropriate regression equation model for analyzing the influence of Regional Financial Performance on Human Development, based on empirical evidence from regencies and cities in Aceh for the period 2020-2024. The selection of this model is based on data processing results obtained using Stata 19 software.

$$IPM = .6445899 + .0114053 (RE) - .0014976 (REBD) + .0126433 (RK) + .7594657 (RDDF) + .0033714 (RKK) + e \dots \dots \dots (1.1)$$

The constant value of .6445899 indicates that when all independent variables are zero, the HDI is estimated to be 0.6445899 or 64.45 percent. The regression coefficients for each independent variable show the following directions: the PAD Effectiveness Ratio (.0114053), Regional Expenditure Efficiency Ratio (-.0014976), Regional Financial Independence Ratio (.0126433), Fiscal Decentralization Degree Ratio (.7594657), and Regional Financial Dependency Ratio (.0033714) are all positive except for the Regional Expenditure Efficiency Ratio, which is negative. This indicates that each one-unit increase in the Regional Expenditure Efficiency Ratio will decrease the HDI, while all other positive independent ratios suggest that an increase in these variables will tend to raise the HDI.

Multicollinearity Test. The multicollinearity test aims to identify the presence of strong or perfect relationships among independent variables in this study. A research model is considered adequate when its multicollinearity level is low, as high multicollinearity

impedes the isolation of the partial effects of each independent variable on the dependent variable.

According to Table 6, the average Variance Inflation Factor (VIF) value is 1.20. This value indicates that the data in this research model show no signs of multicollinearity, as the average VIF does not exceed 10.

Table 6. Multicollinearity Test

Variable	VIF	1/VIF
RK	1.32	0.759151
RDDF	1.29	0.776664
RKK	1.22	0.821812
RE	1.16	0.865028
REBD	1.03	0.974070
Mean VIF	1.20	

Sumber: Stata 19 (2026)

Results of Hypothesis Testing

Partial Test (t-Test). The t-test is employed to examine the individual influence of each independent variable on the Human Development Index (HDI).

1. The Regional Revenue Effectiveness Ratio (RE) variable has a probability value of 0.031 ($p < 0.05$). This result indicates that the effectiveness ratio of regional revenue has a significant effect on the HDI. Therefore, hypothesis (H1), which posits an effect of the Regional Revenue Effectiveness Ratio on the HDI, is accepted.
2. The Regional Expenditure Efficiency Ratio (REBD) variable has a probability value of 0.884 ($p > 0.05$). This finding demonstrates that the efficiency ratio of regional expenditure does not have a significant effect on the HDI. Thus, hypothesis (H2) is rejected.

3. The Regional Financial Independence Ratio (RK) variable has a probability value of 0.191 ($p > 0.05$). This result indicates that the independence ratio does not affect the HDI, and therefore, hypothesis (H3) is rejected.
4. The Fiscal Decentralization Degree Ratio (RDDE) variable has a probability value of 0.000 ($p < 0.05$), indicating a significant effect on the HDI. Accordingly, hypothesis (H4), which states that the Fiscal Decentralization Degree Ratio affects the HDI, is accepted.
5. The Regional Financial Dependency Ratio (RKK) variable has a probability value of 0.798 ($p > 0.05$), indicating no significant effect on the HDI. Therefore, hypothesis (H5), which asserts that the Regional Financial Dependency Ratio affects the HDI, is rejected.

Simultaneous Test (F-Test). Based on Table 5, the probability value (F-statistic) is 0.000000, which is less than 0.05. This result indicates that, collectively, all independent variables—fiscal decentralization degree ratio, regional financial independence ratio, local revenue effectiveness ratio, regional financial dependency ratio, and regional expenditure efficiency ratio—have a significant effect on the Human Development Index (HDI). Therefore, the regression model used is appropriate for explaining the variation in the dependent variable (Widiarti & Nurvazly, 2025).

Coefficient of Determination (R-Squared). The coefficient of determination (R-squared) value of 0.4153 indicates that the independent variables in this study explain 41.53 percent of the variation in the Human Development Index (HDI), while the remaining 58.47 percent is explained by other factors outside the research model.

The Impact of the Regional Own-Source Revenue Effectiveness Ratio on the Human Development Index. The calculation analysis results presented in Table 5 show a probability value of 0.031 ($p < 0.05$), indicating that the effectiveness ratio of Regional Original Revenue (PAD) significantly influences the Human Development Index (HDI). This result implies that increased effectiveness in generating Regional Original Revenue enhances a region's capacity to support human development by improving public services,

education, and healthcare quality. These findings are consistent with previous research (Fitriya & Witono, 2023) and (Suranta et al., 2019), which also report that PAD significantly affects HDI.

The Impact of Regional Spending Efficiency Ratio on the Human Development Index. The analysis results indicate a probability value of 0.884 ($p > 0.05$), demonstrating that the efficiency ratio of regional spending does not significantly affect the Human Development Index (HDI). This outcome aligns with previous studies (Siregar, 2023) and (Kurniawan & Murtala, 2022), which also found no influence of spending efficiency on HDI. The lack of impact may be due to spending that is administratively efficient but does not effectively enhance human development quality. Furthermore, the Regional Revenue and Expenditure Budget (APBK) remains dominated by operational spending, particularly personnel expenditures, which constrains development efforts. The 2020–2024 research period encompassed the COVID-19 pandemic, during which all Indonesian regions were required to implement budget efficiency and refocusing. This emergency-driven efficiency resulted in delays to long-term human development programs. Consequently, although administrative efficiency figures appeared favorable, there was no substantial improvement in Human Development Index indicators.

The Impact of the Dependency Ratio on the Human Development Index. The analysis results yield a probability value of 0.191 ($p > 0.05$), indicating that the regional financial independence ratio does not have a significant effect on the Human Development Index (HDI). This finding is consistent with previous studies (Munfarida & Priyojadmiko, 2020) and [32], which also report no impact of the independence ratio on HDI. Increases in the financial independence ratio are often administrative and do not reflect actual purchasing power or community economic well-being. This suggests that human development in Aceh remains highly dependent on government spending. The effectiveness of human development in special autonomous regions is more influenced by the accuracy of expenditure targeting from central government transfers than by the magnitude of local revenue. Thus, fiscal independence has not yet become a primary

determinant of community quality of life, and the regional financial independence ratio does not influence the Human Development Index.

The Impact of Fiscal Decentralization on the Human Development Index. Panel data regression analysis indicates that the Fiscal Decentralization Degree Ratio (RDDF) variable has a probability value of 0.000 ($p < 0.05$), demonstrating a positive and significant effect on the Human Development Index (HDI). The regression coefficient of 0.7594657 suggests that each one-unit increase in RDDF raises the HDI by 0.7594657 units, holding other variables constant. Among the independent variables, RDDF exhibits the largest coefficient in this research model, indicating that the degree of fiscal decentralization is the most influential factor in increasing HDI in the regencies and cities of Aceh Province during the 2020–2024 period.

These findings suggest that increasing the share of Local Own-Source Revenue relative to total regional revenue strengthens the fiscal capacity of local governments to support human development, particularly in education, health, and public welfare. This outcome is consistent with fiscal decentralization theory, which asserts that granting fiscal authority to local governments can improve the efficiency of public resource allocation due to their better understanding of community needs. Additionally, these results align with prior research demonstrating that fiscal decentralization enhances human development quality by optimizing public services and improving local spending efficiency. This finding is also consistent with previous studies (Kartika et al., 2024) and (Asri et al., 2025), which report that the degree of fiscal decentralization positively affects the Human Development Index. This positive effect is attributed to the ability of regions in Aceh Province to optimize the collection of Local Own-Source Revenue (PAD), thereby increasing regional autonomy and enabling more effective revenue management for development.

The Impact of Financial Dependency Ratio on the Human Development Index. The analysis results indicate a probability value of 0.798 ($p > 0.05$), demonstrating that the regional financial dependency ratio does not significantly affect the Human Development Index (HDI). This finding is consistent with previous studies (Insani et al., 2023) and [36], which also concluded that the regional financial dependency ratio does not influence HDI.

In this study, the financial dependency ratio was calculated by comparing transfer revenue with total regional revenue. These results suggest that fiscal autonomy alone is insufficient to improve HDI. Enhancing the quality of expenditure allocation is more critical, ensuring that all received funds are managed independently and directed toward key sectors such as health, education, and community economic growth. Thus, local governments should not be overly dependent on the central government. A region can be considered self-sufficient if it optimally manages its finances, regardless of the source. Consequently, the regional financial dependency ratio does not affect the Human Development Index.

Conclusion

The influence of regional financial performance on the Human Development Index (HDI) was examined across 23 districts and cities in Aceh Province from 2020 to 2024 using a panel data regression approach. Model selection tests, including Chow, Hausman, and Lagrange Multiplier, identified the Common Effect Model (CEM) as the most appropriate analytical framework. The findings demonstrate that, collectively, regional financial performance variables significantly affect HDI, underscoring the critical role of financial management in supporting human development in Aceh Province. The coefficient of determination (R-squared) value of 0.4153 indicates that the independent variables explain 41.53 percent of the variation in HDI, while the remaining 58.47 percent is attributable to factors outside the research model.

The analysis indicates that the Regional Own-Source Revenue (PAD) Effectiveness Ratio and the Fiscal Decentralization Degree Ratio exert a positive and significant effect on HDI. This outcome indicates that effective realization of PAD targets and increased PAD contributions to total regional revenue can enhance the quality of human development. Among the variables examined, the Fiscal Decentralization Ratio exerts the most substantial influence on HDI, emphasizing the importance of regional fiscal capacity in advancing education, health, and public welfare. In contrast, the Regional Spending Efficiency Ratio, Regional Financial Independence Ratio, and Regional Financial Dependency Ratio do not

exhibit a significant impact on HDI. These findings suggest that improvements in budget efficiency and fiscal independence have not yet been matched by optimized public spending focused on human development. Additionally, the continued reliance on central government transfer funds demonstrates that the fiscal capacity of local governments in Aceh Province remains limited in supporting autonomous development.

The findings suggest that local governments should strengthen fiscal capacity by optimizing locally generated revenue and improving the allocation of regional expenditures, with greater emphasis on strategic sectors directly related to human development. Future research should incorporate additional variables, including poverty rates, unemployment, economic growth, education spending, and healthcare expenditure, to provide a more comprehensive explanation of the factors influencing human development in the region.

References

- Afifah, N. A., Ilyas, F., & Bharata, W. R. (2023). Analisis kinerja keuangan kota magelang periode 2016 –2021 Penilaian kinerja berdasarkan rasio keuangan. *JURNAL MANEKSI*, 12. <https://doi.org/https://doi.org/10.31959/jm.v12i2.1473>
- Asri, D. J., Sinurat, M., Tumija, T., & Agustina, I. (2025). *Analisis Pengaruh Desentralisasi Fiskal dan Ketergantungan Keuangan Terhadap Indeks Pembangunan Manusia (IPM) di Kalimantan Timur (2017-2022)*. 7(1). <https://doi.org/10.33701/jmb.v7i1.4875>
- Baso, R., Nurul, W., & Sumarni, S. (2020). Analisis Rasio Keuangan Daerah Untuk Menilai Kinerja Keuangan Daerah Kabupaten Bulukumba. *Tangible Journal*, 5(1), 43–57. <https://doi.org/10.53654/tangible.v5i1.103>
- BPS Provinsi Aceh. (2025). *Badan pusat statistik provinsi aceh*. <https://searchengine.web.bps.go.id/filemenu/Booklet-IPM-Metode-Baru.pdf>
- Dong, Y. (2023). Descriptive Statistics and Its Applications. *Highlights in Science, Engineering and Technology*, 47, 16–23. <https://doi.org/10.54097/hset.v47i.8159>
- Faradilla, S., & Hanifa, N. (2024). Analisis Analisis Rasio Efektivitas PAD, Efisiensi PAD dan Kemandirian Kota Surabaya. *Independent: Journal of Economics*, 4(3), 98–104. <https://doi.org/10.26740/independent.v4i3.65910>
- Fitriya, N. M., & Witono, B. (2023). The Influence of Regional Original Income, General Allocation Funds, and Special Allocation Funds on the Human Development Index (Conduct Research on Java Island Regencies and Cities During 2019 to 2021). *International Journal of Latest Research in Humanities and Social Science (IJLRHSS)*, 6(1), 176–181. <https://www.ijlrhss.com/paper/volume-6-issue-1/27-HSS-1708.pdf>

- Hardana, A., & Nasution, J. (2022). Pengaruh Rasio Keuangan Pemerintah Daerah Terhadap Indeks Pembangunan Manusia. *Global Financial Accounting Journal*, 06(01). <https://doi.org/10.37253/gfa.v6i1.6452>
- Harliyani, E. M., & Haryadi, H. (2016). Pengaruh Kinerja Keuangan Pemerintah Daerah Terhadap Indeks Pembangunan Manusia di Provinsi Jambi. *Jurnal Perspektif Pembiayaan Dan Pembangunan Daerah*, 3(3), 129–140. <https://doi.org/10.22437/ppd.v3i3.3514>
- Insani, A., Rahayu, S., & Erwati, M. (2023). Determinan Kinerja Keuangan Pemerintah Daerah. *Jurnal Studi Akuntansi Dan Keuangan*, 6(1), 203–2109. <https://journal.stiemb.ac.id/index.php/mea/article/view/5857>
- Jalil, S., & Kamaruddin, M. (2018). Examining the Relationship between Human Development Index and Socio-Economic Variables: A Panel Data Analysis. *Journal of International Business, Economics and Entrepreneurship*, 3, 37. <https://doi.org/10.24191/jibe.v3i2.14431>
- Juliarti, A., Hariyanto, D., & Meutianingrum, F. J. (2022). Case Study on Regional Original Income: Analysis of Effectiveness, Efficiency, Fiscal Decentralization, and Regional Financial Dependence Ratio. *Journal of Asian Multicultural Research for Economy and Management Study*, 3(3), 7–13. <https://doi.org/10.47616/jamrems.v3i3.320>
- Jumati, J. B. A., Nacikit, N. F., & Digdowiseiso, K. (2023). Analisis Kinerja Pengelolaan Keuangan Daerah Di Era Otonomi Daerah Kabupaten Jayawijaya Tahun Anggaran 2016-2020. *JURNAL ILMIAH GLOBAL EDUCATION*, 4(1), 167–175. <https://doi.org/10.55681/jige.v4i1.562>
- Kartika, M., Kurniasih, P. E., Dosinta, F. N., & Wahid, W. (2024). Pengaruh Desentralisasi Fiskal, Pengangguran, Kemiskinan Terhadap Indeks Pembangunan Manusia (IPM) Kalimantan Barat : Perspektif Ekonomi Islam. *WACANA EKONOMI (Jurnal Ekonomi, Bisnis Dan Akuntansi)*, 23(1), 59–71. <https://doi.org/10.22225/we.23.1.2024.59-71>
- Khoirunnisa, D., Ismail, T., & Ibrani, E. Y. (2025). The Influence of Local Government Financial Performance on Public Welfare in Banten, Indonesia. *Technoarete Transactions on Economics and Business Systems*, 4(1). <https://doi.org/10.36647/TTEBS/04.01.Art002>
- Kurniawan, I., & Murtala, M. (2022). Efisiensi Belanja Pemerintah Terhadap Indeks Pembangunan Manusia Secara Regional di Indonesia. *Jurnal Ekonomi Regional Unimal*, 4(2), 1. <https://doi.org/10.29103/jeru.v4i2.6051>
- Lazuardi, D., & Asiyah, B. N. (2025). The Influence of Trade in Services, Inflation, and Foreign Direct Investment on the Sharia Stock Index. *El-Barka Journal of Islamic Economics and Business*, 8(2), 135–156. <https://doi.org/10.21154/elbarka.v8i2.12038>
- Maulana, I., & Samsuddin, M. A. (2025). Pengaruh Inflasi Dan Tingkat Ketenagakerjaan Terhadap Produk Domestik Regional Bruto Di Negara-Negara Apec: Analisis Regresi Data Panel Tahun 2010-2019. *JUKONI: Jurnal Ilmu Ekonomi Dan Bisnis*, (2). <https://doi.org/10.70134/jukoni.v2i2.534>
- Munfarida, S., & Priyoadmiko, E. (2020). Pengaruh Pendapatan Asli Daerah, Dana Alokasi Umum, Rasio Efektivitas dan Rasio Kemandirian Terhadap Indeks Pembangunan

Manusia. *AMAR (Andalas Management Review)*, 4(2), 46–59.
<https://doi.org/10.25077/amar.4.2.46-59.2020>

Oates, W. E. (2018). *Fiscal Federalism*. OECD Publishing.
<https://www.jstor.org/stable/30022712>

Octavia, M., Syahriza, R., & Hasibuan, F. A. N. (2024). Analisis Kinerja Keuangan Pemerintah Daerah Kota Tebing Tinggi. *Jurnal Ekonomi, Akuntansi, Dan Perpajakan*, 1(4), 216–232. <https://doi.org/10.61132/jeap.v1i4.448>

Ramandani Havi Novita. (2024). Analisis Determinan Pembangunan Manusia Berbasis Gender Dan Desentralisasi Fiskal Pada Inklusifitas Pertumbuhan Ekonomi Di Provinsi Nusa Tenggara Barat. *Jurnal Ilmu Ekonomi (JIE)*, 08(02), 172–180.
<https://ejournal.umm.ac.id/index.php/jie/article/view/31782/14491>

Republik Indonesia. (2004). *Undang-Undang Republik Indonesia Nomor 32 Tahun 2004 Tentang Pemerintahan Daerah*. bpk.go.id. <https://peraturan.bpk.go.id/Details/40768/uu-no-32-tahun-2004>

Rosita, R., & Muzdalifah, M. (2023). Analisis Pengaruh Rasio Kemandirian Keuangan Daerah dan Pertumbuhan Ekonomi Terhadap Indeks Pembangunan Manusia Di Kabupaten Tanah Bumbu, Kotabaru dan Tanah Laut Periode (2010-2020). *JIEP: Jurnal Ilmu Ekonomi Dan Pembangunan*, 6(2).
<https://jiep.ulm.ac.id/index.php/jiep/article/download/2442/315/6323>

Sari, N. F., & Riharjo, B. ikhsan. (2020). Pengaruh Kinerja Keuangan Pemerintah Daerah Terhadap Indeks Pembangunan Manusia Pada Kabupaten Atau Kota Di Provinsi Jawa Timur. *Jurnal Ilmu Dan Riset Akuntansi*, 9(8).
<https://jurnalmahasiswa.stiesia.ac.id/index.php/jira/article/view/3630/3646>

Seran, M. S. B. (2022). Pendapatan Asli Daerah : Suatu analisis efektivitas pengelolaan pajak dan retribusi daerah Kabupaten Malaka. *Fair Value: Jurnal Ilmiah Akuntansi Dan Keuangan*, 4(7), 2873–2878. <https://doi.org/10.32670/fairvalue.v4i7.1216>

sinta, A., pujiyanti, P., & Alfiana, A. (2026). Pengaruh Current Ratio(CR) Dan Debt To Equity Ratio(DER) Terhadap Nilai Perusahaan (PBV) Pada Perusahaan Sektor Transportation And Logistic Yang Terdaftar Di BEI Periode 2020-2024. *Indonesia Economic Journal*, 2(1), 328–339. <https://doi.org/10.63822/enz7gn06>

Siregar, H. A. (2023). Aspek Kinerja Keuangan Daerah yang Berdampak Pada Pembangunan Manusia di Daerah Pemekaran. *Jurnal Akuntansi Dan Ekonomika*, 13(2), 157–167. <https://doi.org/10.37859/jae.v13i2.5530>

Suranta, S., Bandi, B., Perdana, D. H., & Syafiqurrahman, M. (2019). Regional financial performance and human development index: Study in Central Java and South Kalimantan provinces. *Journal of Contemporary Accounting*, 1(2), 85–94.
<https://doi.org/10.20885/jca.vol1.iss2.art2>

Talumewo, D. K. S. K., Kawung, M. V. G., & Tumangkeng, Y. L. S. (2020). Faktor-Faktor Yang Mempengaruhi Kinerja Keuangan Pemerintah Daerah Di Kota Manado. *Jurnal*

- Tjahjono, A., & Oktavianti, R. (2017). Pengaruh Rasio Efektivitas Pendapatan Asli Daerah, Dana Alokasi Umum Dan Dana Alokasi Khusus Terhadap Tingkat Kemandirian Keuangan Daerah Di Provinsi DIY. *Kajian Bisnis STIE Widya Wiwaha*, 24(1), 25–34. <https://doi.org/10.32477/jkb.v24i1.215>
- Undang-Undang (UU) Nomor 11 Tahun 2006 Tentang Pemerintahan Aceh, Pub. L. 11, Sekretariat Negara (2006).
- Urzúa, C., & Vilbert, J. (2023). *An Oddity in the Human Development Index*. <https://doi.org/10.21203/rs.3.rs-2015397/v1>
- Vasthare, R., Dhaundiyal, S., & Puri, S. (2019). Measures of human development: a narrative. *International Journal Of Community Medicine And Public Health*, 6(2), 889. <https://doi.org/10.18203/2394-6040.ijcmph20190027>
- Widiarti, W., & Nurvazly, E. D. (2025). Kajian Model Regresi Data Panel Pada Data Indeks Pembangunan Manusia Provinsi Dki Jakarta Tahun 2019-2023. *MATHunesa: Jurnal Ilmiah Matematika*, 13(1), 117–124. <https://doi.org/10.26740/mathunesa.v13n1.p117-124>
- Yandari, R. P., Rizky, F., & Kutaraja, P. (2025). Determinants of Economic Growth: A Review of Local Governments on Sumatera Island. *Majalah Bisnis & IPTEK*, 18(1), 48–67. <https://doi.org/10.55208/bistek>