Green Inflation: International Journal of Management and Strategic Business Leadership

E-ISSN: 3048-0612
P-ISSN: 3048-0620

Research Article

An Analysis of Regional Financial Dependency, Local Revenue Effectiveness, and Fiscal Decentralization on Human Development in Madura Island

Pandu Fajar Pramudya[1], Marseto[2*]

[1] Universitas Pembangunan Nasional Veteran Jawa Timur; e-mail : pandufajar101@gmail.com
[2] Universitas Pembangunan Nasional Veteran Jawa Timur; e-mail : marseto.ep@upnjatim.ac.id
* Corresponding Author : Marseto

Abstract: This study investigates the relationship between fiscal dependence, the effectiveness of locally generated revenue (PAD), and the degree of fiscal decentralization on the Human Development Index (HDI) in four regencies on Madura Island Bangkalan, Sampang, Pamekasan, and Sumenep which have consistently reported the lowest HDI scores in East Java Province. Utilizing panel data from 2011 to 2023, the findings indicate that all regencies remain highly fiscally dependent, with fiscal dependency ratios exceeding 89%. Central government transfers dominate local budget structures, significantly limiting local fiscal autonomy. While PAD effectiveness shows notable achievements such as Pamekasan's 136.09% realization rate its contribution to total regional revenue remains relatively low. This is reflected in the modest degree of fiscal decentralization, which ranges between 8.56% and 10.72%. Such fiscal limitations hinder the ability of local governments to invest in strategic sectors that directly impact human development, including education, healthcare, and public services. The analysis also reveals that despite effective PAD realization, its nominal value is insufficient to drive substantial improvements in HDI, especially when not supported by strengthened fiscal capacity and local economic mobilization. These findings suggest that PAD effectiveness alone does not translate into better human development outcomes without broader fiscal empowerment. Therefore, a comprehensive fiscal decentralization strategy is required one that not only enhances revenue generation but also improves budgetary governance and optimizes local economic resources. Strengthening local fiscal autonomy is essential for ensuring targeted, efficient, and equitable investment in human development sectors, ultimately fostering sustainable regional development across Madura Island.

Keywords: HDI, Madura Island, Regional Finance

Received: July 17, 2025
Revised: July 31, 2025
Accepted: August 14, 2025
Published: August 16, 2025
Curr. Ver.: August 16, 2025

1. Introduction

Regional autonomy has become a pivotal element in Indonesia's economic development strategy. Designed to decentralize authority, it empowers local governments to manage development initiatives and formulate policies tailored to the specific needs and challenges of their regions [1]. Through this approach, it is expected that public services will be more responsive and effective, ultimately enhancing societal welfare through more targeted and context-sensitive policymaking.

The development of quality human capital is essential to achieving such welfare. Human resources are critical to a country's progress, influencing economic productivity, innovation, and institutional stability. Low levels of human development, conversely, can hinder growth and burden development processes [2]. In this context, the Human

Development Index (HDI) serves as a multidimensional indicator that reflects the impact of public policies on education, health, and economic well-being [3].

According to the United Nations Development Programme (UNDP), human development involves expanding individuals' choices and opportunities across key dimensions: life expectancy, educational attainment, and standard of living. HDI aggregates these components to evaluate a region's overall progress, offering an objective benchmark for policy performance and development outcomes [4]. Improvements in HDI depend on balanced progress across these dimensions, supported by sound governance and economic policy.

At the regional level, the successful implementation of decentralization policies directly influences national development outcomes. Local governments, especially at the district and municipal levels, play a central role in delivering public services, while provincial governments act as coordinators to ensure policy alignment and coherence. These multilevel governance structures are expected to contribute to improved development performance, particularly in terms of human development [5]. Thus, understanding the financial dynamics that underpin regional governance—such as fiscal dependence, the effectiveness of local revenue generation, and the degree of fiscal decentralization—becomes essential in evaluating their influence on human development outcomes.

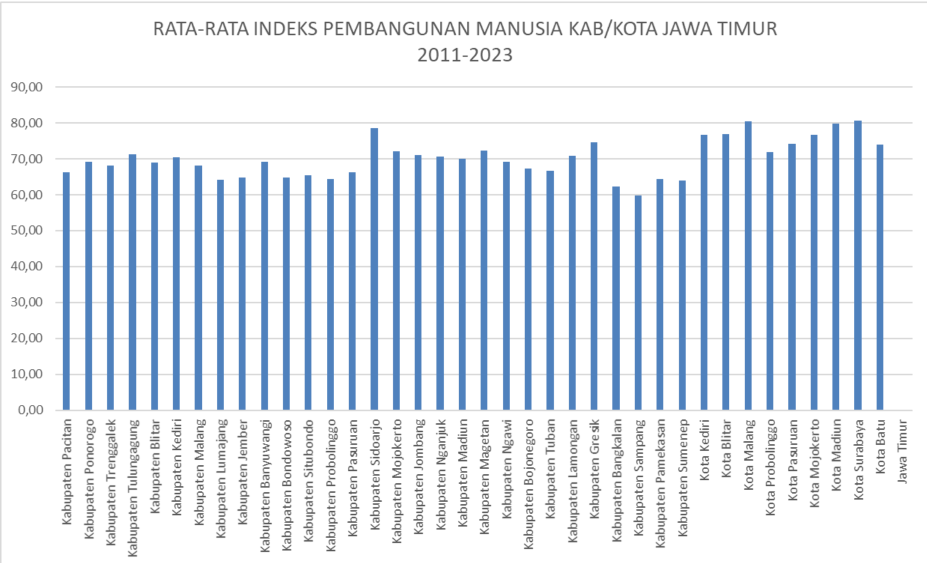

Figure 1. The average value of the Human Development Index in East Java Province during the period 2011–2023
Source : BPS of East Java

East Java Province holds a strategic position in Indonesia's sustainable development agenda. As the largest and most administratively extensive province on Java Island, East Java encompasses 29 regencies and 9 cities making it the region with the highest number of local governments in the country. Geographically, the province is divided into two main zones: the mainland and the Madura archipelago. Despite East Java's significant development strides, the Human Development Index (HDI) levels in the four regencies located on Madura Island Bangkalan, Sampang, Pamekasan, and Sumenep remain consistently among the lowest in the province. This persistent disparity poses a major challenge for equitable national development, particularly in delivering targeted and inclusive social and economic programs in these underdeveloped districts.

To address these inequalities, adequate fiscal capacity is essential for local governments. Law No. 32 and No. 34 of 2004 outline the legal framework for fiscal decentralization, specifying the sources of regional revenue that can be mobilized to support local development. With sufficient financial autonomy, regional administrations can more effectively implement public policies tailored to their unique socio-economic needs.

As noted by Sarkoro and Zulfikar (in Munfarida & Priyojadmiko, 2020) [6], fiscal decentralization plays a critical role in improving the efficiency of regional budget management (*Anggaran Pendapatan dan Belanja Daerah*, or APBD). This management should not solely concentrate on primary sectors but must also encompass complementary sectors that indirectly enhance social welfare. Effective fiscal decentralization enables regions to utilize public funds more strategically, thereby fostering inclusive economic growth and sustainable development.

Desentralization, fundamentally, is a mechanism for transferring rights, responsibilities, and financial resources from central to regional governments. It is designed to strengthen local democracy, improve economic welfare, elevate the quality of public services, and promote more effective and responsive governance [7]. Since its formal adoption in 2001, decentralization in Indonesia has marked a significant shift away from centralized governance. Specifically, fiscal decentralization has proven instrumental in addressing the challenges of inadequate local revenues, correcting economic externalities, and ensuring more equitable income distribution, while also supporting macroeconomic stability [8]. In this context, robust fiscal decentralization strategies may offer a transformative pathway for regions such as Madura to accelerate their development trajectory and enhance human welfare outcomes.

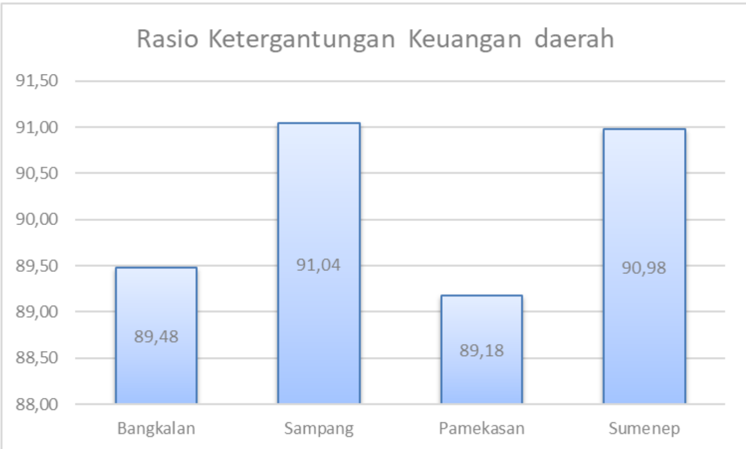

Figure 2. The average financial dependency ratio of district governments on Madura Island
Source : Directorate General of Fiscal Balance

Based on Figure 2, all four regencies in Madura exhibit a high level of fiscal dependency on central government transfers. Sampang shows the highest dependency ratio at 91.04%, followed by Sumenep at 90.98%, Bangkalan at 89.48%, and Pamekasan at 89.19% the lowest among them. Despite the marginal variation, these figures indicate limited regional fiscal autonomy, with over 89% of total revenue in each region originating from intergovernmental transfers.

This high dependency constrains local governments' capacity to independently formulate and implement development policies. Regencies with the highest ratios, such as Sumenep and Sampang, face narrower fiscal space, while Pamekasan despite its relatively lower ratio—shows potential for improving its fiscal independence through enhanced local revenue mobilization (PAD), such as regional taxes, retributions, and optimized resource management.

The fiscal structure in these regions is heavily skewed toward funding basic services and infrastructure, leaving limited room for strategic investments in sectors like education, health, and local economic innovation. This pattern reflects both structural economic limitations and underutilization of endogenous revenue sources. Strengthening fiscal capacity through increased PAD and reducing dependency on central transfers are thus crucial for advancing sustainable regional development and improving Human Development Index (HDI) outcomes across Madura.

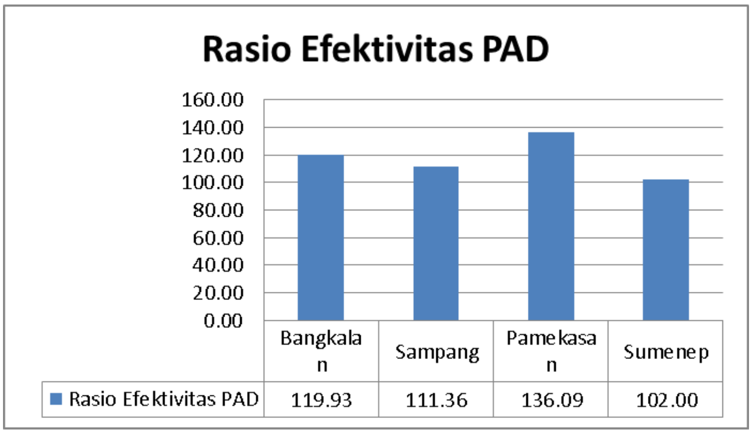

Figure 3. The average effectiveness ratio of locally generated revenue in the regencies of Madura Island
Source : Directorate General of Fiscal Balance

According to Figure 3, all four regencies in Madura demonstrate varying degrees of local revenue effectiveness (PAD). Pamekasan recorded the highest effectiveness ratio at 136.09%, followed by Bangkalan (119.93%), Sampang (111.36%), and Sumenep (102%). These values indicate that the realization of PAD in each region exceeded budget targets, reflecting commendable revenue administration performance particularly in Pamekasan.

Effectiveness of PAD is a critical component of fiscal performance, as it reflects a region's capacity to generate internal revenue to support public service delivery and local development initiatives through the Regional Budget (APBD) [9]. However, PAD effectiveness alone does not guarantee improved social outcomes. In the case of Madura, despite positive PAD realization, the Human Development Index (HDI) remains below the provincial average. This disparity suggests a limited impact of PAD performance on development outcomes.

A key limiting factor is the relatively low contribution of PAD to total regional income. The high dependence on intergovernmental transfers diminishes the fiscal space required for targeted investments in health, education, and economic sectors core components of HDI. Therefore, enhancing PAD effectiveness must be accompanied by broader efforts to diversify local revenue streams and reduce fiscal dependency. Such reforms are essential to achieve greater fiscal autonomy and to translate revenue performance into tangible improvements in human development.

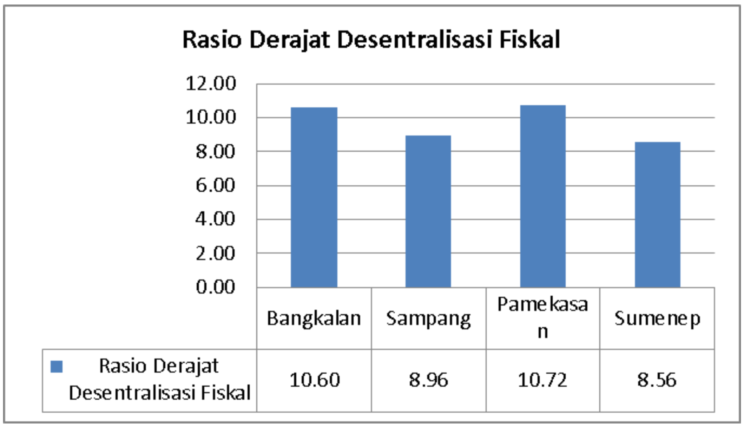

Figure 4. The average ratio of the degree of fiscal decentralization in the regencies of Madura Island
Source : Directorate General of Fiscal Balance

Among the four regencies in Madura, Pamekasan registers the highest fiscal decentralization degree at 10.72%, indicating a relatively greater autonomy in local financial management. This is followed closely by Bangkalan (10.60%), Sampang (8.96%), and Sumenep (8.56%), the latter reflecting the lowest fiscal independence. Despite these variations, all four regencies exhibit a generally low ratio of locally generated revenue (PAD) to total regional income, underscoring the limited contribution of regional taxes, retributions, and asset management to fiscal sustainability.

This low fiscal decentralization ratio has significant implications for local development capacity. High dependency on intergovernmental fiscal transfers constrains local governments' budgetary discretion, thereby limiting the formulation of responsive and localized development policies. As a result, the ability to address critical sectors such as infrastructure, health, and education is compromised, reducing overall development effectiveness.

Furthermore, this structural dependence adversely impacts human development outcomes, as indicated by persistently low Human Development Index (HDI) scores across the region. The limited fiscal autonomy restricts the scale and scope of development programs that directly enhance community welfare. To improve HDI performance, regencies must expand their PAD base, enhance fiscal governance, and reduce reliance on central transfers through more strategic and locally grounded economic initiatives.

2. Literature Review

2.1. Federalism Fiscal Theory

Fiscal federalism theory serves as a conceptual framework that explains the relationship between decentralization, macroeconomic conditions, the provision of public services, and societal welfare. Initially introduced by Musgrave in 1959 and later expanded by scholars such as Hayek and Oates, this theory outlines the normative principles of how fiscal responsibilities and authorities should be allocated across multiple tiers of government to enhance efficiency, equity, and responsiveness to local preferences.

In a multi-level government structure, each tier national, regional, and local holds its own sources of revenue and expenditure responsibilities. In the Indonesian context, fiscal federalism is operationalized through decentralization policies under Law No. 33 of 2004. However, its implementation remains structurally constrained. At the regency/municipality level, local governments tend to function more as administrative extensions of the central government rather than as fully autonomous entities. This is largely due to their heavy dependence on central transfers, particularly the General Allocation Fund (DAU) and the Special Allocation Fund (DAK), which substantially limits their fiscal autonomy and flexibility in designing development policies responsive to local needs [10]

Musgrave delineates public sector responsibilities into three core functions. First, the stabilization function, wherein the government seeks to maintain macroeconomic stability, including managing inflation, employment, and growth. Second, the distribution function, which entails ensuring a fair and equitable allocation of income and wealth among the population. Third, the allocation function, which concerns the efficient provision and distribution of public goods and services in accordance with societal preferences.

One primary rationale for intergovernmental grants from the central government to subnational governments is the disparity in local fiscal capacity. In many cases, subnational governments are unable to generate sufficient own-source revenue to meet their expenditure responsibilities. Thus, intergovernmental transfers act as compensatory mechanisms to bridge the vertical fiscal gap and enable minimum service delivery.

A key justification for decentralization lies in the heterogeneity of demand for public goods. Local governments are perceived to be better positioned to tailor services to the specific needs of their constituents, due to their proximity to local preferences, conditions, and resources. [11] notes that decentralized public service provision also creates “natural policy laboratories,” allowing successful innovations in one jurisdiction to be adopted by others, including the central government.

This perspective is rooted in the seminal work of Tiebout (1956), which responded to Samuelson’s (1954) critique of the inefficiencies inherent in public goods provision when uniform consumption levels are applied across diverse individual preferences. Tiebout argued that competition among local governments in providing public goods would enhance allocative efficiency, as individuals would "vote with their feet" by relocating to jurisdictions offering the preferred mix of taxes and services. This idea was further developed by Oates (1972), whose decentralization theorem posits that local governments are more efficient providers of public goods because of their closeness to community preferences.

Nevertheless, the Tiebout model is not without its limitations. As noted by Boadway & Tremblay (2012), real-world constraints such as limited household mobility, unequal fiscal capacities across regions, and administrative inefficiencies hinder the full realization of Tieboutian efficiency. [12] further emphasize that the effectiveness of fiscal federalism depends significantly on institutional capacity, incentive structures, and intergovernmental redistribution mechanisms designed to promote both efficiency and equity across jurisdictions.

2.2 Related Work

A growing body of research highlights the intricate relationship between local fiscal capacity and human development outcomes, particularly the Human Development Index (HDI). Numerous empirical studies have examined various fiscal indicators such as fiscal dependency, the effectiveness of local own-source revenue (PAD), and fiscal decentralization ratios to determine their impact on HDI at the regional level in Indonesia.

Sari and Riharjo [13] investigated the financial performance of local governments in East Java, revealing that fiscal decentralization has a significantly positive effect on HDI, while fiscal dependency has a negative impact. Interestingly, the effectiveness of PAD did not show a significant effect, suggesting that while revenue collection mechanisms exist, their actual influence on public welfare outcomes remains limited. This finding is supported by Syahrial Maulana [14] who, through analysis in South Sulawesi, also concluded that greater fiscal independence (i.e., lower dependency ratios) and higher degrees of decentralization contribute positively to HDI. Maulana emphasized that regions with strong fiscal performance tend to allocate funds more efficiently towards health and education, thereby improving human development indicators.

Similarly, Halim [15] explored multiple fiscal variables including decentralization degree, financial dependency, and regional spending ratios across Eastern Indonesia and reaffirmed the notion that greater fiscal autonomy positively affects HDI. These findings align with the theory of fiscal federalism, which posits that local governments are more aware of local needs and can allocate resources more efficiently.

Further evidence was provided by Taslim and Pratama [16] in their study of North Maluku. They found that local fiscal variables, particularly efficiency and effectiveness of PAD, did not significantly affect HDI, supporting the argument that local revenue sources are often underutilized or misdirected. The study also revealed that only a few municipalities demonstrated effective financial management practices, which directly translated into improvements in HDI.

Kholisoh [17], focusing on cities in East Java, emphasized that fiscal dependency ratios negatively influence HDI, while PAD effectiveness had a statistically significant but varied impact depending on the region. The author suggested that some districts still treat PAD as a revenue formality rather than an instrument for policy leverage in development.

Complementing these findings, another study by an Kholisoh researcher in 2023 demonstrated a significant negative correlation between fiscal dependency and HDI in Java. This aligns with the hypothesis that over-reliance on central government transfers tends to reduce incentives for fiscal innovation and local initiative, thereby stalling human development.

Lastly, the work of another 2023 study offered a more integrated analysis by combining variables like general allocation funds (DAU), PAD effectiveness, and regional autonomy. It concluded that, collectively, these fiscal variables significantly influence HDI, emphasizing that local governments' ability to manage both internally generated revenue and central transfers remains pivotal for achieving human development goals [6].

In summary, the reviewed literature shows a strong consensus that greater fiscal independence measured through lower dependency ratios and higher degrees of fiscal decentralization tends to improve human development. However, the effectiveness of PAD remains contested, with several studies indicating its limited influence due to inefficiencies in allocation or low collection capacity. These findings underscore the need for more strategic fiscal governance and capacity building at the local level, especially in regions like Madura where fiscal reliance on central government remains high.

3. Proposed Method

The research variables consist of independent variables, including the Regional Financial Dependency Ratio, the Local Own Source Revenue Effectiveness Ratio, and the Fiscal Decentralization Degree Ratio. The dependent variable is the Human Development Index (HDI). This study employs a quantitative approach, focusing on the four regencies of Madura Island Bangkalan, Sampang, Pamekasan, and Sumenep over the period 2011 to 2023. As defined by Sugiyono [18], the quantitative method involves the use of numerical data and statistical analysis to examine the relationships between variables objectively and measurably, offering insights into the region's fiscal dynamics and social welfare outcomes.

The entire population of regencies is used as the sample through a saturated sampling technique, ensuring complete regional representation [19]. Data were obtained from secondary sources, including Statistics Indonesia (BPS), the Directorate General of Fiscal Balance (DJPK), and relevant academic literature. These annual datasets allow for longitudinal analysis of fiscal and development indicators.

The study utilizes panel data regression, combining time-series and cross-sectional dimensions to better capture temporal changes and inter-regional differences. This method enables a deeper understanding of how regional fiscal performance measured by fiscal dependency, PAD effectiveness, and the degree of fiscal decentralization affects Human Development Index (HDI) outcomes in the Madura region. This contributes to a broader understanding of local fiscal governance within Indonesia's decentralized system. And carried out variable latent calculations:

$$\mathrm{IPM}_{\mathrm{it}} = \alpha_{\mathrm{i}} + \beta_1 \mathrm{RKKD}_{\mathrm{it}} + \beta_2 \mathrm{REPAD}_{\mathrm{it}} + \beta_3 \mathrm{RDDF}_{\mathrm{it}} + \varepsilon_{\mathrm{it}}$$

IPM_{it} : Human Development Index region i year t
RKKD_{it} : Regional Financial Dependency Ratio region i year t
REPAD_{it} : Local Own Source Revenue Effectiveness Ratio region i year t
RDDF_{it} : Fiscal Decentralization Degree Ratio region i year t
α_i : Constant
$\beta_1, \beta_2, \beta_3$: Coefficient
ε_{it} : Error term region i year t

4. Results and Discussion

4.1 Multiple Linear Regression Equation

Table 1. Fixed Effect Model Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	42.55337	36.86960	1.154159	0.2545
RKKD	0.084718	0.328225	0.258110	0.7975
REPAD	-0.052934	0.006576	-8.050203	0.0000
RDDF	8.305340	3.180572	2.611273	0.0122

The results of the data processing are presented in Table and can be summarized in the following regression equation:

$$\mathrm{IPM}_{\mathrm{it}} = 42.55337 + 0.084718\mathrm{RKKD}_{\mathrm{it}} - 0.052934\mathrm{REPAD}_{\mathrm{it}} + 8.305340\mathrm{RDDF}_{\mathrm{it}} + \varepsilon_{\mathrm{it}}$$

Based on this regression equation, several interpretations can be made :

- The constant value of 42.55337 indicates the baseline of the Human Development Index (HDI) when all independent variables (RKKD, REPAD, and RDDF) are equal to zero.

- The coefficient of RKKD, which is 0.084718 and positive, suggests that a 1% increase in RKKD is associated with an increase in HDI by approximately 0.084718%, assuming other variables remain constant.
- The coefficient of REPAD is -0.052934, indicating a negative relationship. This implies that a 1% increase in REPAD corresponds to a decrease in HDI by -0.052934%, holding other factors constant.
- The coefficient of RDDF, with a positive value of 8.305340, implies that a 1% increase in RDDF is associated with a rise in HDI by 8.305340%, ceteris paribus.

4.2. T-Test

Table 2. t- Test Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	42.55337	36.86960	1.154159	0.2545
RKKD	0.084718	0.328225	0.258110	0.7975
REPAD	-0.052934	0.006576	-8.050203	0.0000
RDDF	8.305340	3.180572	2.611273	0.0122

Based on the regression test results presented in the table above, the probability values for each variable are as follows:

- The Regional Financial Dependency Ratio (RKKD) has a probability value of 0.7975, which is greater than the predetermined significance level of 0.05. Therefore, H1 is rejected and H0 is accepted. This indicates that RKKD does not have a statistically significant effect on the Human Development Index (HDI) in Madura Island.
- The Regional Original Revenue Effectiveness Ratio (REPAD) has a probability value of 0.0000, which is less than the significance level of 0.05. Thus, H0 is rejected and H1 is accepted. This suggests that REPAD has a statistically significant effect on the HDI in Madura Island.
- The Fiscal Decentralization Degree Ratio (RDDF) shows a probability value of 0.0122, also below the 0.05 significance threshold. Accordingly, H0 is rejected and H1 is accepted, indicating that RDDF has a statistically significant influence on the HDI in Madura Island.

4.3. F Test

Table 3. F Test Result

F-Statistic	69.26026
Prob(F-Statisitic)	0.00000

Based on the results of the F-test, the Prob(F-Statistic) value is 0.000000, which is less than the significance level α = 5% (0.05). Therefore, it can be concluded that RKKD, REPAD, and RDDF simultaneously have a significant influence on the Human Development Index (HDI) across regencies in Madura Island.

4.4. Coefficient of Determination Tes

Table 4. Coefficient of Determination TestResults

R-squared	0.902293
Adjusted R-squared	0.889266

Based on the results of the coefficient of determination test, the Adjusted R-squared value is 0.889266, indicating that the independent variables (RKKD, REPAD, and RDDF) collectively explain 88,92% of the variation in the dependent variable (HDI) across regencies in Madura Island. The remaining 11,08% is influenced by other factors not included in this study.

5. Comparison

5.1 Financial Dependency and Its Implications for Human Development

The regression results show that the Regional Financial Dependency Ratio (RKKD) has no statistically significant effect on HDI in Madura ($p = 0.084718 > 0.05$). This is likely due to the region's heavy reliance on central government transfers, while its economy remains dominated by primary sectors like agriculture and traditional fisheries, resulting in weak local fiscal capacity. Most intergovernmental transfers (e.g., DAU, DAK) are allocated to routine expenditures, such as salaries and operations, rather than to productive sectors like education and health. Moreover, poor planning capacity, delayed fund disbursement, and a lack of accountability lead to ineffective use of resources. In many cases, development funds are diverted to non-priority or politically motivated projects, limiting their impact on human development. The lagging effect of human capital investments also means improvements in HDI may not be immediately observable within the study period. For example, in regions like Bangkalan and Sampang, public spending has increased without significant gains in HDI. This result aligns with [20], who argue that the flexible nature of block grants and weak governance often reduce their developmental impact, especially in regions with low PAD, limited innovation, and dependence on centralized fiscal control.

5.2 Assessing the Impact of Local Revenue Effectiveness on Human Development Outcomes in Regional Contexts

The results of the multiple linear regression indicate that the Regional Original Revenue Effectiveness Ratio (REPAD) has a significant negative effect on the Human Development Index (HDI), with a probability value of 0.0000 and a coefficient of -0.052934. This implies that a 1% increase in REPAD leads to a 0.052934% decrease in HDI, assuming other variables remain constant. While high REPAD values reflect the ability to meet PAD targets, they do not necessarily indicate that the amount of PAD is sufficient or effectively allocated to human development sectors. In Madura, most PAD comes from non-developmental sources such as market fees, parking charges, and entertainment taxes contributing little to social investment. Consequently, PAD is often used for operational spending rather than sectors like education or health.

This misalignment is evident in cases such as Pamekasan (2020–2021), where PAD realization exceeded 90%, yet HDI gains remained marginal. Spending on education and health in many districts remains below 20% of the total budget, suggesting a limited impact on HDI outcomes.

These findings align with Musgrave's (1959) fiscal theory, which emphasizes not just allocative efficiency but also the redistribution of welfare. Similarly, Syahrini [21] found a negative relationship between PAD and HDI due to the tendency for PAD allocations to prioritize general or consumptive expenditures over targeted social investment. Moreover, poor planning capacity in health and education undermines the potential impact of existing budget allocations on human development.

5.3 The Effect of Fiscal Decentralization Ratio on the Human Development Index

The multiple linear regression results reveal that the Fiscal Decentralization Degree Ratio (RDDF) has a positive and statistically significant effect on the Human Development Index (HDI), with a probability value of 0.0122and a coefficient of 8.305340. This indicates that a 1% increase in RDDF leads to a 8.305340% increase in HDI, assuming other variables remain constant.

A higher RDDF reflects greater local fiscal autonomy, enabling regional governments to design policies tailored to community needs. Districts such as Pamekasan and Bangkalan can utilize locally generated revenue e.g., from cultural tourism or traditional markets to fund education and healthcare initiatives without relying on central directives. In Sumenep, efforts to enhance fiscal independence through local taxes, state-owned enterprises (BUMD), and tourism have contributed to increased investment in education and digital health services, positively impacting HDI.

These findings are consistent with fiscal federalism theory, which posits that decentralization enhances the efficiency of public spending by bringing decision-making closer to the people. Nursanti [22] supports this view, showing that RDDF significantly improves HDI in East Java's districts. Likewise, [13] argue that fiscal autonomy enables local governments to better address human development through targeted interventions, particularly in health and education. In resource-based regions like Madura rich in fisheries and salt industries RDDF can serve as an indicator of the region's capacity to implement effective, context-sensitive human development strategies.

6. Conclusions

Based on the analysis, this study concludes that during the period 2011–2023, the Fiscal Dependency Ratio (RKKD), Regional Revenue Effectiveness Ratio (REPAD), and Degree of Fiscal Decentralization Ratio (RDDF) collectively have a significant influence on the Human Development Index (HDI) across regencies in Madura Island. Partially, the RKKD does not significantly affect HDI, indicating weak local fiscal capacity and limited budgetary flexibility to address sectoral needs such as education and healthcare. The REPAD shows a significant negative effect on HDI, suggesting that even effective realization of local revenue targets does not necessarily translate into sufficient fiscal capacity for impactful social development, especially when revenues are derived from non-productive sectors and used predominantly for operational spending. Conversely, the RDDF has a significant positive effect on HDI, emphasizing that greater fiscal autonomy and local budgetary control contribute to more efficient and responsive allocations aligned with human development priorities. Therefore, strengthening regional financial performance holistically is a strategic key to improving the quality of life in Madura.

References

Agrawal, D. R., Brueckner, J. K., & Brülhart, M. (2025). Fiscal Federalism in the Twenty-First Century. https://doi.org/10.1146/annurev-economics

Budiardjo, M. (2019). Dasar-Dasar Ilmu Politik (19th ed.). PT Gramedia Pustaka Utama.

Digdowiseiso, K., & Satrio, M. B. (2022). Pengaruh rasio kemandirian keuangan daerah dan rasio ketergantungan fiskal terhadap indeks pembangunan manusia pada kabupaten dan kota Provinsi Kalimantan Selatan tahun 2014-2020. Jurnal Ilmiah Akuntansi dan Keuangan, 4(3), 1170–1181. Retrieved from https://journal.ikopin.ac.id/index.php/fairvalue/article/view/1167

Halim, C. (2020). Analisis pengaruh derajat desentralisasi fiskal, rasio ketergantungan, dan rasio kemandirian terhadap indeks pembangunan manusia di Indonesia Timur (Skripsi, Universitas Islam Negeri Syarif Hidayatullah Jakarta).

Karyono, Y., Tusianti, E., & Gunawan, I. G. N. A. R. (2020). Indeks Pembangunan Manusia. Badan Pusat Statistik.

Kenyon, D. A. Federalisme Fiskal. Center for the Study of Federalism.

Kholisoh, N. (2023). Analisis pengaruh tingkat ketergantungan daerah, tingkat kemandirian keuangan daerah, dan tingkat efektivitas PAD terhadap indeks pembangunan manusia di 9 kota Provinsi Jawa Timur periode 2012-2021. Universitas Islam Negeri Syarif Hidayatullah Jakarta.

Khuasini, M. (2018). Keuangan Daerah. UB Press. Retrieved from https://books.google.co.id/books?hl=en&lr=&id=VOmIDwAAQBAJ&oi=fnd&pg=PT5&dq=info:r27PEkToK84J:scholar.google.com&ots=6FeNRwnXN4&sig=QjOj8wOWfRH1nC98tlxinAeU6qE&redir_esc=y#v=onepage&q&f=false

Mataris, H., & Digdowiseiso, K. (2022). Analisis kinerja keuangan daerah Kabupaten Magelang tahun 2017-2019. Populasi: Jurnal Sosial dan Humaniora, 7(1), 1–31. https://doi.org/10.47313/pjsh.v7i1.1049

Maulana, S. (2023). Pengaruh desentralisasi fiskal dan ketergantungan keuangan daerah terhadap indeks pembangunan manusia di kabupaten/kota provinsi Sulawesi Selatan. Jurnal Metaverse Adpertisi, 2(2), 10–16. Retrieved from https://jurnal.adpertisi.or.id/index.php/jma

Munfarida, S., & Priyojadmiko, 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

Nursanti, E. (2021). Pengaruh rasio derajat desentralisasi fiskal dan keserasian belanja langsung terhadap pertumbuhan ekonomi dengan indeks pembangunan manusia (IPM) sebagai variabel intervening.

Prasetya, F., & Ec, M. A. (2012). Modul Ekonomi Publik Bagian VII: Teori Fiskal Federalisme.

Sari, F. N., & Riharjo, I. B. (2020). Pengaruh kinerja keuangan pemerintah daerah terhadap indeks pembangunan manusia pada kabupaten atau kota di Provinsi Jawa Timur. Jurnal Ilmu dan Ris. Akuntansi, 9, e-ISSN: 2460-0585, 1–16.

Setiawina, N. D., & Arsa, I. K. (2015). Pengaruh kinerja keuangan pada alokasi belanja modal dan pertumbuhan ekonomi pemerintah kabupaten/kota se-provinsi Bali tahun 2006-2013. Jurnal Bulletin Studi Ekonomi, 20(2), 104–112.

Sugiyono. (2013). Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif dan R&D. Alfabeta.

Sugiyono. (2018). Metode Penelitian Kuantitatif (1st ed.). Alfabeta.

Suwandi, & Warokka, A. (2013). Fiscal Decentralization and Special Local Autonomy: Evidence from an Emerging Market. Journal of Southeast Asian Research, 2013, 1–14. https://doi.org/10.5171/2013.554057

Syahrini. (2024). Pendapatan asli daerah, belanja kesehatan dan pendidikan, serta pertumbuhan ekonomi sebagai faktor penentu indeks pembangunan manusia di Sulawesi Barat. ICOR Journal of Regional Economics, 5(01), 21–43.

Taslim, F. A., & Pratama, R. (2021). Analisis kinerja keuangan daerah dan indeks pembangunan manusia Provinsi Maluku Utara. Ilmiah Akuntansi, 3(2), 146–164.

Todaro, M. P., & Smith, S. C. (2006). Pembangunan Ekonomi (9th ed.). Erlangga.

Waris, A., Jedrzej, G. F., Zeeshan, & Mahmood. (2017). Determinants of Corporate Social Responsibility (CSR) Disclosure in Developed and Developing Countries: A Literature Review. Corporate Social Responsibility and Environmental Management, 24(4), 273–294. https://doi.org/10.1002/csr.1410