


Optimizing the Role of Economic Growth, Regional Original Income, and Revenue Sharing Funds in Increasing the Human Development Index in Indonesia

Rahadi Nugroho¹, Vissia Dewi Haptari¹, Ari Mulianta Ginting², Adhi Prasetyo Satryo Wibowo²

¹PKN STAN, Tangerang Selatan, 15222, Indonesia, ²Research and Development Agency (Balitbang), Sekretariat DPR, Jakarta, 10270, Indonesia

Article Info	ABSTRACT
Keywords: Economic Growth, Regional Original Income, Revenue Sharing Fund, Human Development Index	There is still a gap between regions at the HDI level in Indonesia. Economic Growth, Regional Original Income, and Revenue Sharing Funds influence HDI. This study aims to analyse the increase in HDI associated with economic growth, regional original income, and profit-sharing funds. This study is quantitative research with secondary data from all provinces in Indonesia from 2017 to 2022. The dependent variable in this study is the Human Development Index. The independent variables in this study are the economic growth rate, regional original income and revenue sharing funds. Data on the Human Development Index and economic growth were obtained from the Central Statistics Agency. Meanwhile, the Directorate General of Financial Balance, Ministry of Finance, obtained the data on Regional Original Revenue and profit-sharing funds. The results of negative coefficients on economic growth variables and positive coefficients on Regional Original Income and Revenue Sharing Funds indicate that government intervention has a positive and significant effect on the Human Development Index in Indonesia.
This is an open access article under the CC BY-NC license 	Corresponding Author: Vissia Dewi Haptari PKN STAN, Tangerang Selatan, 15222, Indonesia vissiadewih@pknstan.ac.id

INTRODUCTION

Economic growth positively affects the level of welfare. Economic growth positively affects welfare by increasing individual income, contributing to overall GDP. The study showed that a 1 (one) unit increase in income per capita led to an increase in GDP of 0.93 billion, indicating a direct link between growth and well-being. [1, 2]. Poverty can be reduced with economic growth, as in South Africa, people can reduce poverty gaps and improve welfare [3]. Economic growth is the result of economic activities that can improve the region's ability to reduce poverty [4].

Regional Original Income has a positive contribution to economic growth. Regional taxes and levies are important in Regional Original Revenue. Studies have proven that local taxes and levies contribute substantially to the increase in Regional Original Revenue, which drives the local economy's development. For example, in the West Java region, regional taxes and levies positively impact Regional Original Revenue [5].

Revenue sharing funds are an important part of regional revenue. The central government allocates transfer funds to the regions, consisting of revenue sharing, general allocation, special allocation, incentive, and village funds. These funds are used to Finance central and provincial government programs, so the provincial government cannot freely have programs [6]. Regional original revenue, revenue sharing, and general allocation funds are important for increasing the regional self-reliance index, especially in provinces outside Java and Bali, such as Sumatra, Kalimantan, Sulawesi, and Papua. Regional independence depends on each region's geographical conditions and infrastructure [7]. In China, the local income level is higher than that of other provinces, followed by higher regional economic growth [8]. This increase is due to infrastructure spending and other economic activities. Local governments' financial resources include profit-sharing funds that can increase regional independence so that local governments can manage their activities, but in Indonesia, regional fiscal independence is influenced by local revenue and general allocation funds [9]. In addition, the regional tax rate becomes higher because it adjusts the revenue sharing fund [10].

The high HDI index is reflected in the high per capita income. Several studies have analysed that there is a positive relationship between HDI and per capita income. A study shows that Gross Regional Domestic Product (GDP) per capita positively impacts HDI, i.e., areas with higher per capita income will show a higher HDI score. A region's high level of income inequality is not always followed by a high level of HDI, even though the level of per capita income is high [11, 12]. HDI is significantly influenced by per capita income [13].

Per capita income is a formulation of the economic growth rate, regional original income and revenue sharing funds. The increase in per capita income is influenced by economic growth; for example, China will increase per capita income in 2020, so a growth of 7.2% per year is needed [14]. Institutional conditions and economic models affect the relationship between local revenue, revenue-sharing funds, and per capita income [15].

However, there is a gap in HDI between provinces in Java and outside Java and between western and eastern Indonesia. Also, there is a gap in HDI in West Java because educational factors are influenced other than economic growth; poverty and unemployment factors also affect it [16].

Some provinces have high economic growth, but the HDI is not high. Data in Indonesia shows that economic growth does not necessarily make HDI higher, so there is no significant influence between economic growth and HDI. As in Central Sulawesi, poverty has a long-term negative relationship with economic growth, but poverty has a positive relationship with HDI, suggesting that improving HDI is essential to reducing poverty levels [17]. In China, the HDI level is influenced by urbanization and human resource development; in urban areas, the HDI is high due to better education and health services [18].

Some provinces have high local incomes but do not have high HDI. Income does not always drive an increase in HDI; in China, at first, income significantly influences HDI, but the influence decreases in line with the increase in income according to the law of marginal increase [19]. The difference in HDI is due to the uneven benefits of urbanization [20]. In addition, the difference in HDI is due to the difference in income [11, 21].

Some provinces have high revenue sharing funds but have low HDI. A high revenue sharing fund does not automatically have a positive impact on HDI; in Banten province, the revenue sharing fund has a negative impact on the regional minimum wage [22]. In reality, HDI is also affected by governance and government funds; poor governance and inefficient use of government funds can cause the HDI level to be suboptimal [23].

Some provinces have high economic growth, local income, and revenue sharing funds, but high HDI is lower. In reality, the distribution is uneven due to a gap in the HDI level. Short-term HDI gaps can also continue long-term [24]. In addition, other variables, such as the regional minimum wage and capital expenditure, affect the HDI level [22].

This research is important because economic growth, local real income, and profit-sharing funds have not fully formed a high HDI. This study offers a new approach to analysing factors affecting HDI, namely economic growth, local revenue, and profit-sharing funds, through strategies for making policies to increase HDI.

METHOD

This study is quantitative research with secondary data. The dependent variable in this study is the Human Development Index. The independent variables in this study are the economic growth rate, regional original income and revenue sharing funds. Data on the Human Development Index and economic growth were obtained from the Central Statistics Agency. Meanwhile, the data on Regional Original Revenue and revenue sharing funds are obtained from the Directorate General of Financial Balance, Ministry of Finance.

This research will use provincial panel data throughout Indonesia from 2017 to 2022. Regional Original Revenue data and revenue sharing funds combine provincial and all district data in the province. Using panel data, estimating the appropriate model in advance using the Chow, Hauman and Lagrangian Multiplier tests is necessary. After that, a classical assumption test was carried out, including autocorrelation and heteroskedasticity tests. After the classical assumption test is carried out, the variable and model significance tests are carried out. This study uses Stata to process data.

The models in this study are as follows:

$$IPM = \beta_0 + \beta_1Pert + \beta_2PAD + \beta_3DBH + \varepsilon$$

IPM = Human Development Index

β_0 = Constanta

$\beta_1, \beta_2, \text{ dan } \beta_3$ = coefficient

Pert = Economic Growth

PAD = Regional Original Income

DBH = Revenue Sharing Fund

ε = error

RESULTS AND DISCUSSION

Results

Based on the results of the regression test of the panel data, it is known that economic growth has a negative and significant influence on the Human Development Index with a variable

coefficient value of -0.045. The Regional Original Revenue variable is known to have a positive and significant relationship with the Human Development Index with a variable coefficient value of 1.726. The last variable, the Revenue Sharing Fund, is known to have a positive and significant relationship with the Human Development Index with a variable coefficient of 1.230. It can be concluded that the independent variables in this study can be explained by 24.6%, and variables outside the research explain the rest. the positive coefficient on Regional Original Revenue and Revenue Sharing Fund indicate that government intervention has a positive and significant effect on the Human Development Index in Indonesia

1. Economic Growth and HDI

The panel data regression resulted in a coefficient for economic growth of -0.05. It can be interpreted that economic growth is inversely proportional to HDI. This may be because negative growth in 2020 did not affect HDI. In fact, in that year, most provinces in Indonesia experienced an increase in HDI.

2. Regional Original Revenue and HDI

Regional Original Revenue has a significant effect on HDI in Indonesia. The variable coefficient of Regional Original Revenue in this study is 1.73, meaning that a 1% increase in Regional Original Revenue affects HDI by 1.73%. This study follows the previous study [25], which demonstrate that human development benefits from fiscal decentralization, which gives local governments the authority to create and oversee their own money because local governments can modify their expenditures to better suit the unique requirements of their constituents, therefore raising HDI.

3. Revenue Sharing Fund and HDI

The variable coefficient of Revenue Sharing Fund is 1.23. This means that an increase in Revenue Sharing Fund by 1% will increase HDI by 1.23%. This study's results align with the previous study [26].

Dependent Variable: IPM				
Method: Panel EGLS (Cross-section random effects)				
Periods included: 6				
Cross-sections included: 34				
Total panel (balanced) observations: 204				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	69.24680	0.702211	98.61246	0.0000
PU	-0.045305	0.014222	-3.185499	0.0017
PAD	1.73E-13	3.69E-14	4.682356	0.0000
DBH	1.23E-13	2.95E-14	4.164746	0.0000
			S.D.	Rho
Cross-section random			3.734676	0.9680
Idiosyncratic random			0.678894	0.0320
Weighted Statistics				
R-squared	0.246155	Mean dependent var		5.249524

Adjusted R-squared	0.234847	S.D. dependent var	0.775250
Prob(F-statistic)	0.000000		
	Unweighted Statistics		
R-squared	0.145519	Mean dependent var	70.93147
Sum squared resid	2731.765	Durbin-Watson stat	0.022321

With the estimation equation from the model above, it is as follows:

$$IPM = 69.2467985766 - 0.0453048868441 * Pert + 1.72599991335e-13 * PAD + 1.23041993105e-13 * DBH + [CX=R]$$

Where:

IPM = Human Development Index

Pert = Economic Growth

PAD = Regional Original Income

DBH = Revenue Sharing Fund

Discussion

There is a gap in HDI between provinces in Java and outside Java and between western and eastern Indonesia, primarily related to the use of regional revenues to improve welfare. Because of its superior infrastructure, economic activity, and government investments, this region—which includes portions of Java and Sumatra—generally has higher HDI rankings. Central Java, for instance, has sustained a higher HDI growth rate than the national average [16]. Regarding human development, the eastern regions—including provinces like West Papua—face formidable obstacles. These places frequently have lower HDI scores because of their lower economic activity, worse infrastructure, and restricted access to healthcare and education [27].

Some provinces with high economic growth but low HDI are not high, and This shows the need for programs that support improving welfare. Economic expansion in Indonesia has a detrimental effect on HDI, indicating that human progress cannot be achieved through growth [24]. Regional differences still exist despite overall HDI gains; income growth significantly contributes to HDI and emphasizes the need for balanced development in the health and education sectors [19].

Some provinces have high local incomes but do not have high HDI. They need for programs that support improved welfare. HDI is significantly impacted by education spending. Higher HDI ratings are typically found in provinces with larger budgets for education. Improvements in the HDI do not always correspond with health spending, suggesting that more efficient health policies are required [28]. HDI is influenced by income growth, but as income levels rise, its marginal impact diminishes. Therefore a balanced strategy incorporating advancements in health and education is required [19]. Targeted initiatives in low HDI areas that emphasize infrastructure, health, and education. [29]

Some provinces have high revenue sharing funds but have low HDIs. They need for programs that support improved welfare. Higher HDI ratings in Indonesia are not always correlated with the distribution of funds, including general and special allocation funds. For example, despite large funding allocations, Papua has the lowest HDI. The suggestion that in order to improve human growth, these expenditures need to be used more efficiently [30].

Better results in human development can result from giving local governments the authority to manage and distribute resources effectively [31]

Some provinces have high economic growth, high local income, and high profit-sharing funds but not high HDI. They need for programs that support improved welfare. In order to achieve sustainable development, programs should strive to balance economic, social, and environmental factors. Alongside economic endeavours, this entails enhancing healthcare, education, and the environment [32]. Regions with consistently low HDI despite rapid economic expansion require special attention. Programs specifically designed to solve local issues, such as as enhancing the infrastructure for healthcare and education, are required [30]. Reducing poverty and income disparity can be significantly impacted by improving institutional quality. Crucial actions include enhancing the legal system, lowering bureaucratic restrictions, and fortifying democratic institutions [33].

CONCLUSION

Based on the study's results, it can be concluded that economic growth has a positive but not significant influence on the increase in HDI. Regional original income has a positive but insignificant influence on the increase in HDI. Revenue sharing funds have a positive but insignificant influence on the increase in HDI. Economic growth, local revenue, and profit-sharing funds have a positive but insignificant effect on the increase in HDI. The results of negative coefficients on economic growth variables and positive coefficients on Regional Original Revenue and Revenue Sharing Fund indicate that government intervention has a positive and significant effect on the Human Development Index in Indonesia. The contribution of this research not only provides a clearer picture of the influence of economic growth, local real income, and profit-sharing funds both partially and simultaneously on HDI but can also provide an overview for formulating policies that impact increasing HDI. This study only analysed one variable out of three variables that affect HDI.

REFERENCES

- [1] R. K. Edeme, "Revisiting the Economic Growth-Welfare Linkages: Empirical Evidence from Nigeria," *Asian Themes Soc. Sci. Res.*, vol. 1, no. 1, pp. 28–33, 2018, doi: 10.33094/journal.139.2018.11.28.33.
- [2] R. J. Kumaat, D. C. Rotinsulu, and V. A. Rumat, "Analysis of Income Inequality and Its Effect on Poverty Through Economic Growth (Case of Talaud Islands District)," 2020, doi: 10.2991/aebmr.k.200331.039.
- [3] N. Ngepah, "Asymmetric Response of Poverty to Growth and Inequality in South Africa: Implications for Current and Future Shocks," *J. Afr. Econ.*, vol. 33, no. Supplement_1, pp. i30–i53, Dec. 2024, doi: 10.1093/jae/ejae020.
- [4] M. Safri and Fazriyas, "Analysis the Poverty Level in Jambi Province, Indonesia," *Int. J. Membr. Sci. Technol.*, vol. 10, no. 2, pp. 1211–1223, 2023, doi: 10.15379/ijmst.v10i2.1407.
- [5] D. Nababana and I. G. S. Putrab, "The effect of regional tax and regional returns on increasing regional income of west java province," *Int. J. Innov. Creat. Chang.*, vol. 6,

- no. 12, pp. 42–54, 2019.
- [6] E. Wijatmoko, A. Armawi, and T. F. Fathani, “Uncovering the Challenges of Sustainable Development in North Aceh: A Policy Analysis of Special Transfer Funds,” *Sustain.*, vol. 15, no. 11, 2023, doi: 10.3390/su15118585.
- [7] Musviyanti, F. N. Khairin, H. Bone, M. A. Syakura, and R. Yudaruddin, “Structure of local government budgets and local fiscal autonomy: Evidence from Indonesia,” *Public Munic. Financ.*, vol. 11, no. 1, pp. 79–89, 2022, doi: 10.21511/pmf.11(1).2022.07.
- [8] Y. Chen, B. Lyu, and G. Ma, “Revenue sharing, fiscal incentives, and economic growth: Evidence from China,” *Kyklos*, vol. 77, no. 1, pp. 149–183, Feb. 2024, doi: 10.1111/kykl.12362.
- [9] Musviyanti, F. Nur Khairin, H. Bone, M. Abadan Syakura, and R. Yudaruddin, “Structure of local government budgets and local fiscal autonomy: Evidence from Indonesia,” *Public Munic. Financ.*, vol. 11, no. 1, pp. 79–89, Aug. 2022, doi: 10.21511/pmf.11(1).2022.07.
- [10] T. Canare, “The Effect Of Revenue Shares On Local Government Spending: Evidence From Philippine Provinces,” *Singapore Econ. Rev.*, vol. 68, no. 1, pp. 29–63, Mar. 2023, doi: 10.1142/S0217590819500206.
- [11] A. Setiawan, “Relationship model among human development index, Gini coefficient, per capita non-food expenditure, per capita gross regional domestic product and development financing in provinces in Indonesia for the 2015-2019 period,” 2023, p. 030008, doi: 10.1063/5.0177428.
- [12] N. Levente, T. Zsuzsanna, and S. Orsolya, “Income Inequality and Economic Growth,” in *Reimagining Capitalism in a Post-Globalization World*, Berlin: Springer, 2024, pp. 285–295.
- [13] M. do Socorro Candeira Costa and F. W. dos Santos Figueiredo, “Relationship between income inequality, socioeconomic development, vulnerability index, and maternal mortality in Brazil, 2017,” *BMC Public Health*, vol. 21, no. 1, p. 1842, Dec. 2021, doi: 10.1186/s12889-021-11861-y.
- [14] R. Fogel, “Why China is Likely to Achieve Its Growth Objectives,” in *Investing in Human Capital for Economic Development in China*, WORLD SCIENTIFIC, 2010, pp. 3–18.
- [15] K. Anna and Z. Donghui, “Fiscal Decentralization and Economic Growth: Assessing Public Policy in Ukraine,” *Int. J. Public Policy Adm. Res.*, vol. 7, no. 2, pp. 58–68, 2020, doi: 10.18488/journal.74.2020.72.58.68.
- [16] R. R. Arriani and Chotib, “The Correlation of SDG 1 and 8 and Spatial Effect of Human Development Index in Central Java,” *IOP Conf. Ser. Earth Environ. Sci.*, vol. 940, no. 1, p. 012063, Dec. 2021, doi: 10.1088/1755-1315/940/1/012063.
- [17] N. Ladjin, N. M. Mambuhu, and S. Rahayu, “Determination of District/City Poverty Levels in Central Sulawesi Province Autoregressive Distributed Lag (ARDL) Approach,” *Rev. Gestão Soc. e Ambient.*, vol. 18, no. 6, p. e05893, Apr. 2024, doi: 10.24857/rgsa.v18n6-066.
- [18] V. Bykova, M. Khasanova, and F. Polonkoeva, “the Role of Human Capital in Economic

- Development: an Analysis of Factors Contributing To Economic Growth,” *Reliab. Theory Appl.*, vol. 19, no. Special issue 6, pp. 1676–1682, 2024, doi: 10.24412/1932-2321-2024-681-1676-1682.
- [19] Z. Shi and X. Tang, “Exploring the New Era: An Empirical Analysis of China’s Regional HDI Development,” *Emerg. Mark. Financ. Trade*, vol. 56, no. 9, pp. 1957–1970, Jul. 2020, doi: 10.1080/1540496X.2019.1684255.
- [20] M. Majumdar and J. Sen, “Spatial Distribution of Human Development Indicators Using Census Data: Case of Kolkata Urban Agglomeration,” in *Infrastructure and Built Environment for Sustainable and Resilient Societies*, Singapore: Springer, 2024, pp. 181–205.
- [21] A. Taresh, D. Sari, and R. Purwono, “Analysis of the relationship between income inequality and social variables: Evidence from Indonesia,” *Econ. Sociol.*, vol. 14, no. 1, pp. 103–119, Mar. 2021, doi: 10.14254/2071-789X.2021/14-1/7.
- [22] T. M. A. R. Azhari, A. Sumaryana, R. W. S. Sumadinata, and N. A. Deliarnoor, “The effects of locally-generated revenue (Lgr) and revenue sharing funds (rsf) on regional minimum wages to promote human development index (hdi) in banten province,” *Int. J. Entrep.*, vol. 25, no. Special Issue 1, pp. 1–11, 2021.
- [23] S. Y. Sarpong and M. A. Bein, “Effects of good governance, sustainable development and aid on quality of life: Evidence from sub-saharan Africa,” *African Dev. Rev.*, vol. 33, no. 1, pp. 25–37, Mar. 2021, doi: 10.1111/1467-8268.12488.
- [24] R. Sijabat, “Impact of economic growth, village funds, and poverty on human development in Indonesia: An analytical study from 2015 to 2022,” *Int. J. Adv. Appl. Sci.*, vol. 11, no. 3, pp. 238–250, Mar. 2024, doi: 10.21833/ijaas.2024.03.023.
- [25] E. Sofilda, M. Zilal Hamzah, and S. Kusairi, “Analysis of fiscal decentralisation, human development, and regional economic growth in indonesia,” *Cogent Econ. Financ.*, vol. 11, no. 1, Dec. 2023, doi: 10.1080/23322039.2023.2220520.
- [26] Verawaty, M. Gunarto, R. Wahasusmiah, and C. I. Merina, “Determinants of human development index in Indonesia,” *Proc. Int. Conf. Ind. Eng. Oper. Manag.*, no. 3, pp. 4199–4210, 2021, doi: 10.46254/an11.20210750.
- [27] D. Walujadi, I. Indupurnahayu, and E. Endri, “Determinants of Income Inequality Among Provinces: Panel Data Evidence from Indonesia,” *Qual. - Access to Success*, vol. 23, no. 190, pp. 243–250, 2022, doi: 10.47750/QAS/23.190.26.
- [28] Ernanto, J. Sriyana, A. Hakim, and S. Sidiq, “Enhancing Human Capital in Indonesia: Does Economic Policy Work?,” *Int. J. Sustain. Dev. Plan.*, vol. 19, no. 5, pp. 1963–1969, May 2024, doi: 10.18280/ijdsdp.190535.
- [29] T. A. Naveed and D. Gordon, “The Construction of a Human Development Index at the Household Level and the Measurement of Human Development Disparities in Punjab (Pakistan),” *J. Hum. Dev. Capab.*, vol. 25, no. 3, pp. 473–498, Jul. 2024, doi: 10.1080/19452829.2024.2372375.
- [30] D. P. Rahmawati, I. N. Budiantara, D. D. Prastyo, and M. A. D. Octavanny, “Modeling of Human Development Index in Papua Province Using Spline Smoothing Estimator in Nonparametric Regression,” *J. Phys. Conf. Ser.*, vol. 1752, no. 1, p. 012018, Feb. 2021,

doi: 10.1088/1742-6596/1752/1/012018.

- [31] V. Haptari, B. Soedaryono, E. Sofilda, and W. Siallagan, "Impact of Fiscal Decentralization Policy on Foreign Direct Investment in Indonesia," *OIDA Int. J. Sustain. Dev.*, vol. 15, no. 6, pp. 29–44, 2022.
- [32] X. Wang, R. Han, and M. Zhao, "Evaluation and Impact Mechanism of High-Quality Development in China's Coastal Provinces," *Int. J. Environ. Res. Public Health*, vol. 20, no. 2, p. 1336, Jan. 2023, doi: 10.3390/ijerph20021336.
- [33] H. K. Kouadio and L.-L. Gakpa, "Do economic growth and institutional quality reduce poverty and inequality in West Africa?," *J. Policy Model.*, vol. 44, no. 1, pp. 41–63, Jan. 2022, doi: 10.1016/j.jpolmod.2021.09.010.