Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2024): 8.431 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 11 | Issue:6 | June 2024 -Peer-Reviewed Journal

EXAMINING THE ROLE OF ECONOMIC GROWTH AS A MEDIATOR IN THE RELATIONSHIP BETWEEN HUMAN DEVELOPMENT AND TAX REVENUE IN KARNATAKA

Hemantha M [1], Dr. S.B. Nari [2]
[1]*Research Scholar, Department of Studies in Economics, Karnatak University, Dharwad*
[2]*Associate Professor, Department of Studies in Economics, Karnatak University, Dharwad*

ABSTRACT
The relationship between human development, economic growth, and tax revenue has been a subject of significant interest in the field of economics. This research paper aims to examine the mediating effect of economic growth on the relationship between human development and tax revenue in Karnataka. The analysis revealed a significant direct effect of human development on tax revenue in Karnataka. This positive and significant direct effect indicates that progress in human development, such as better education, health, and income levels, directly lead to increased tax revenues. But the indirect effect of human development on tax revenue through economic growth, however, was not found to be statistically significant.

2.INTRODUCTION

The Indian economy has experienced remarkable growth and development in recent decades, driven in part by the government's efforts to mobilize tax revenue and invest in infrastructure and human capital. Tax revenue serves as a crucial source of funding for economic and social development initiatives, enabling the government to provide essential public goods and services, build infrastructure, and support human development programs.(Premalatha, 2020) Examining the interplay between tax revenue, human development, and economic growth in India is crucial for understanding the country's path to sustainable development. On one hand, economic growth generates higher tax revenue, which can then be invested in human development initiatives such as education, healthcare, and social welfare programs. On the other hand, investments in human development can also drive economic growth by enhancing the productivity and living standards of the population.(Premalatha, 2020) This complex relationship is highlighted in research on the impact of tax revenue on economic development in developing countries. Tax revenue serves as a key source of funding for public investment, which in turn supports infrastructure development and improves the business environment. At the same time, a country's tax system and revenue mobilization capacity are shaped by a range of historical, political, and socioeconomic factors.(Addison et al., 2018) In the case of India, studies have shown that infrastructure development has played a significant role in driving economic growth and enhancing the country's competitiveness. Further, research has emphasized the importance of designing effective tax policies and reforms to boost tax revenue and promote sustainable development. Ultimately, the relationship between tax revenue, human development, and economic growth in India is a complex and dynamic one, influenced by a range of interrelated factors. Continued research and policy efforts to understand and harness this interplay will be crucial for India's continued progress toward inclusive and sustainable development.

3.SIGNIFICANCE OF THE STUDY

The relationship of tax revenue, human development, and economic growth is particularly relevant for the state of Karnataka, which has experienced significant economic and social development in recent decades. As one of India's leading states in terms of economic growth and tax revenue generation, Karnataka's experience can provide valuable insights into the role of tax policy and revenue mobilization in supporting human development and inclusive growth. Karnataka's tax revenue has grown steadily over the years, contributing to the state's ability to invest in infrastructure, education, healthcare, and other social welfare programs. These investments have, in turn, supported human development indicators such as literacy rates, life expectancy, and access to essential services. At the same time, Karnataka's economic growth, driven by sectors such as information technology, manufacturing, and services, has generated higher tax revenue and enabled the state government to further expand its investments in human development. By examining the relationship between tax revenue, human development, and economic growth in the context of Karnataka, this study can provide valuable insights for policymakers and researchers

interested in understanding the drivers of inclusive and sustainable development in the state. The findings can also inform policy discussions and reforms aimed at strengthening the state's tax system, enhancing revenue mobilization, and effectively channelling resources toward human development initiatives.

4. LITERATURE REVIEW

The relationship between tax revenue, human development, and economic growth has been the subject of extensive research, with studies examining the relationship between these factors in various contexts.

International studies have highlighted the critical role of tax revenue in supporting economic development and human well-being. Maiga & Xu (2017) studied the growth of public spending through tax revenue in Mali and found that tax revenue is a crucial source of revenue for any economy, typically accounting for most part of their income, and that tax revenue has contributed significantly to the country's economic development and social programs. Similarly, Arif et al. (2017) examined the impact of a government on tax revenue and buoyancy in Pakistan emphasized the central role of tax revenue in economic growth and the importance of designing effective tax policies and reforms to increase tax revenue. Ibadin & Oluwatuyi (2021) investigated the impact of tax revenue on Real Gross Domestic Product (RGDP) and Human Development Index (HDI) using time series data from 1994 to 2017 and found that there exists a significant positive relationship between tax revenue and HDI. Olaoye et.al. (2019) examined the impact of tax revenue on Nigeria's economic development from 2003 to 2019 and found that companies income tax and value added tax significantly affect the economic development in the long run whereas petroleum profit tax showed negligible impact. Singoro (2021) analysed the impact of Human Development Index on tax revenue performance in Kenya during 2003 to 2018. The findings showed that a significant positive relationship between HDI and tax revenue collected, suggesting that enhancing human development could increase tax revenue. Mendes et.al. (2018) examines the structural relationships between tax revenue, fiscal transfers and municipal human development using panel data and binomial logistic regression. The research found significant impact of industrial and agricultural GDP, along with intergovernmental transfers, on municipal Human Development, but service sector showed a negative impact due to lack of urban and economic infrastructure across smaller municipalities. Maryantika & Wijaya (2022) investigates the impact of corruption, public spending and human development on tax revenues, with economic growth examined as a mediator, across 10 provinces of Indonesia from 2010 to 2019. With the help of multiple linear regression, authors found that public spending, human development and economic growth positively impact tax revenue, while corruption have no significant impact. Maknun (2023) analysed the influence of public spending and economic growth on the Human Development in Makassar City during 2010 to 2019. The study found insignificant and negligible impact of Public Expenditure on the Human Development. But Economic growth showed a positive and significant impact on Human Development. Vatavu et al. (2019) explores the relationship between taxation, economic growth and human development across Central and Eastern Europe and richer European Countries during 1995 to 2015 and found that while taxes positively impact economic growth, but its impact on human development is inadequate, especially in Countries with Higher Human Development where increased tax revenues are expected over the long term.

Focusing on the Indian context, research has explored the relationship between tax revenue, human development, and economic growth. Mukherjee & Chakraborty (2010) analyses the association between Economic Growth and Human Development across Major 28 Indian States. The Paper found that per capita income alone is inadequate to impact on Human Development. Joumard et al. (2017) highlighted the critical role of tax revenue in financing public institutions and development projects, and the need for strengthening the state's revenue mobilization capacity to deliver on the Sustainable Development Goals in India. Saksena & Deb (2017) investigates the performance of Economic Growth and Human Development in 28 Major Indian States during 1990 to 2010. The study reveals a diverging path over the study period. Overall, the previous literature highlights the multidimensional relationship between tax revenue, human development, and economic growth, and the need for further research and policy efforts to understand and channel this relationship for inclusive and sustainable development.

5. RESEARCH METHODOLOGY

The present study examines the relationship between Economic Growth, Human Development and Tax Revenue in Karnataka. The research hypothesized that Economic Growth mediates the relationship between Human Development and Tax Revenue. The study employs a lag specification of 1, 2,and 1 years for Economic Growth, Human Development and Tax Revenue respectively, based on Akaike (AIC) and Schwarz Information Criterion (SIC). The Mediation Analysis is conducted with the help of IBM SPSS 25.0 and PROCESS Macro Model 4 Developed by Preacher and Hayes (2013). The Essential Data requisite for the analysis has been retrieved from

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2024): 8.431 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 11 | Issue:6 | June 2024 -Peer-Reviewed Journal

State Finances: A Study of Budgets from Reserve Bank of India (RBI), Economic & Political Weekly Research Foundation India Times Series (EPWRFITS) online database and Global Data Lab.

6. RESULTS AND DISCUSSION

Table 6.1. Descriptive Statistics

	LNTR	LNNSDP	HDI
Mean	14.47902	11.17540	0.565531
Median	14.54960	11.13412	0.566500
Maximum	16.22694	12.03202	0.680000
Minimum	12.35970	10.38613	0.447000
Std. Dev.	1.236963	0.498982	0.080297
Skewness	-0.089972	0.173224	0.061890
Kurtosis	1.655545	1.809530	1.626138
Jarque-Bera	2.453253	2.049660	2.537091
Probability	0.293280	0.358858	0.281240
Sum	463.3285	357.6127	18.09700
Sum Sq. Dev	47.43238	7.718482	0.199878
Observations	32	32	32

The Table 6.1. represents variables related to tax revenue (LNTR), economic growth (LNNSDP), and Human Development Index (HDI) over 32 observations. All variables pass the Jarque-Bera test for normality at typical significance levels, indicating that the assumption of normal distribution cannot be rejected for these data. This suggests that statistical methods assuming normality could be appropriate for further analysis. The overall results depict a stable scenario across the measures, hinting at a generally consistent pattern in the economic and development indicators considered.

Table 6.2. Correlation Matrix

	LNTR	LNNSDP	HDI
LNTR	1.000000	0.988548	0.995086
LNNSDP	0.988548	1.000000	0.989936
HDI	0.995086	0.989936	1.000000

The correlation matrix provided in Table 6.2 shows the relationships between tax revenue (LNTR), economic growth (LNNSDP), and the Human Development Index (HDI). All correlations are extremely high (close to 1), indicating a very strong positive relationship among the three variables. This suggests that increases in one are likely associated with increases in the others.

Specifically, the correlation between LNTR and LNNSDP is very high, implying that regions with higher economic output tend to collect more in tax revenue. Similarly, the relationship between LNTR and HDI, as well as LNNSDP and HDI, are nearly perfect. This could indicate that areas with higher tax revenue and greater economic growth also tend to have better human development outcomes, suggesting a mutually reinforcing cycle between economic prosperity and quality of life. These results might be used to advocate for policies that aim to boost economic performance and human development as a strategy to increase tax revenues.

6.3. Mediation Analysis

Table 6.3.1. Direct Effect of Human Development on Own Tax Revenue of Karnataka

Effect	se	t	p	LLCI	ULCI
17.2006	4.1693	4.1255	.0003	8.6457	25.7556

A mediation analysis was conducted to examine whether Economic Growth mediates the relationship between Human Development and Tax Revenue using Model 4 of the PROCESS macro for SPSS. Human Development was the independent variable (X), Economic Growth was the mediator (M), and Tax Revenue was the dependent variable (Y).

Journal DOI: 10.36713/epra1013 | SJIF Impact Factor (2024): 8.431 ISSN: 2347-4378
EPRA International Journal of Economics, Business and Management Studies (EBMS)
Volume: 11 | Issue:6 | June 2024 -Peer-Reviewed Journal

The analysis revealed a significant direct effect of Human Development on Tax Revenue. The unstandardized regression coefficient for this direct effect was 17.2006, with a standard error of 4.1693. The t-statistic was 4.1255, and the associated p-value was 0.0003, indicating that the direct effect is statistically significant at the 0.05 level. The 95% confidence interval for this effect ranged from 8.6457 to 25.7556, further confirming the significance of the direct relationship.

The positive and significant direct effect indicates that improvements in human development, such as better education, health, and income levels, directly lead to increased tax revenues. This could be due to the enhanced productivity and economic activity stimulated by better human development outcomes, leading to higher taxable incomes and consumption.

Table 6.3.2. Indirect Effect of Human Development on Own Tax Revenue of Karnataka (Through Economic Growth)

	Effect	BootSE	BootLLCI	BootULCI
LNPCNSDP	**-2.2492**	**3.5940**	**-9.2459**	**5.3153**

The indirect effect of Human Development on Tax Revenue through Economic Growth was also examined. The unstandardized indirect effect was -2.2492, with a bootstrap standard error of 3.5940. The 95% bootstrap confidence interval ranged from -9.2459 to 5.3153.

The bootstrap confidence interval includes zero, indicating that the indirect effect of Human Development on Tax Revenue through Economic Growth is not statistically significant. This suggests that while Human Development directly impacts Tax Revenue, the pathway through Economic Growth does not significantly contribute to this effect in the current analysis.

Overall, the findings indicate that Human Development has a significant direct positive impact on Tax Revenue. However, the mediating role of Economic Growth in this relationship is not supported by the data, as evidenced by the non-significant indirect effect. This suggests that the benefits of Human Development on Tax Revenue are realized primarily through direct mechanisms rather than through the enhancement of Economic Growth. These results highlight the importance of direct investment in human development for increasing tax revenues, emphasizing that such investments can yield immediate fiscal benefits without necessarily relying on broader economic growth as an intermediary. Policymakers should consider the direct fiscal advantages of human development initiatives when designing budget allocations and economic strategies. The significant direct effect underscores the potential for human development improvements to enhance government revenues directly, contributing to a more robust and sustainable fiscal framework.

7. CONCLUSION

The mediation analysis conducted to assess the relationships among Human Development, Economic Growth, and Tax Revenue in Karnataka reveals significant insights. The study finds a substantial direct positive effect of Human Development on Tax Revenue, indicating that improvements in education, health, and income directly enhance tax revenues. This is evidenced by a statistically significant direct effect, where each unit increase in Human Development correlates with a significant increase in Tax Revenue, independent of Economic Growth.
Contrastingly, the indirect effect of Human Development on Tax Revenue through Economic Growth was not statistically significant. This suggests that the economic growth does not serve as a significant mediator in this relationship. Essentially, the benefits of improved human development on tax revenue do not primarily flow through the channel of economic growth in this context.

From a policy perspective, these findings underline the importance of investing directly in human development initiatives. Such investments not only foster better human welfare but also translate into immediate fiscal benefits through increased tax collections, without necessarily depending on enhancements in economic growth. This direct linkage suggests that policy interventions aiming to boost human development can be justified not only on social grounds but also for their direct fiscal benefits.

For further research, exploring additional pathways and mechanisms through which human development impacts fiscal capacities could provide deeper insights. Investigating other potential mediators and examining different contexts or regions could help in understanding the nuances of these relationships. Furthermore, longitudinal studies could elucidate the long-term effects of human development on economic metrics, offering a broader perspective for policy formulation and evaluation.

8. REFERENCES

1. *Addison, T., Niño-Zarazúa, M., & Pirttilä, J. (2018, March 1). Fiscal Policy, State Building and Economic Development. Wiley, 30(2), 161-172.*
2. *Arif, I., Khan, L., & Hussain, F. (2017, June 1). Impact of Semi-Autonomous Revenue Authority on Tax Revenue and Buoyancy: Evidence from Pakistan. , 2(2), 165-175.*
3. *Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis, New York: The Guilford Press.*
4. *Hayes, A. F., & Scharkow, M. (2013). The relative trustworthiness of inferential tests of the indirect effect in statistical mediation analysis: Does method really matter?, Psychological Science, 24, 1918-1927.*
5. *Hayes, A. F., & Rockwood, N. J. (2017). Regression-based statistical mediation and moderation analysis in clinical research: Observations, recommendations, and implementation, Behaviour research and therapy, Psychological Science, 98, 39-57.*
6. *Ibadin, P. O., & Oluwatuyi, B. T. (2021). Tax revenue, economic growth and human development index in Nigeria. Journal of Taxation and Economic Development, 20(2), 52-76.*
7. *Joumard, I., Thomas, A., & Morgavi, H. (2017, January 1). Making Income and Property Taxes More Growth-Friendly and Redistributive in India.*
8. *Maiga, S., & Xu, F. (2017, September 1). The growth of government annual budget through taxes collection. IOP Publishing, 231, 012049-012049.*
9. *Maknun, M. (2023). Impact of Regional Revenue and Expenditure Budgets and Economic Growth on the Human Development Index. Advances in Economics & Financial Studies, 1(1), 25-35.*
10. *Maryantika, D. D., & Wijaya, S. (2022). Determinants of tax revenue in Indonesia with economic growth as a mediation variable. JPPI (Jurnal Penelitian Pendidikan Indonesia), 8(2), 450-465.*
11. *Mendes, W. D. A., Ferreira, M. A. M., Abrantes, L. A., & Faria, E. R. D. (2018). The influence of economic capacity and the formation of public revenues on human development. Revista de Administração Pública, 52, 918-934.*
12. *Mukherjee, S., & Chakraborty, D. (2010). Is there any relationship between economic growth and human development? Evidence from Indian States. Evidence from Indian States (May 31, 2010).*
13. *Mukherjee, S., & Chakraborty, D. (2011). Is there any interdependence between economic growth and human development? Evidence from Indian states. Indian Journal of Human Development, 5(2), 467-494.*
14. *Olaoye, C. O., Ogundipe, A. A., & Oluwadare, O. E. (2019). Tax revenue and economic development in Nigeria. Advances in Social Sciences Research Journal, 6(9), 312-321.*
15. *Premalatha, R. (2020, December 1). Pattern of Public Expenditure on Social Sector in India. , 9(1), 57-62. https://doi.org/10.34293/economics.v9i1.3515*
16. *Saksena, S., & Deb, M. (2017). Economic Growth and Human Development in Indian States after Two Decades of Economic Reforms1. Indian Journal of Economics and Development, 13(2), 269-280.*
17. *Singoro, B. W. (2021). Effects of human development capital on tax revenue performance in Kenya. International Journal of Business Management and Economic Research, 12(1), 1884-1892.*
18. *Vatavu, S., Lobont, O. R., Stefea, P., & Brindescu-Olariu, D. (2019). How taxes relate to potential welfare gain and appreciable economic growth. Sustainability, 11(15), 4094.*