

FISCAL DEFICITS AND HUMAN DEVELOPMENT IN INDIA: AN ANALYSIS OF UNION BUDGETARY TRENDS AND PUBLIC EXPENDITURE

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Abstract

This study examines the trends and structural changes in the Union Government's fiscal deficit and analyses public expenditure on education, health and other human development sectors. The findings indicate that India's fiscal deficit increased sharply during the COVID-19 pandemic and reached 9.2 percent of GDP in 2020–21. It subsequently declined as fiscal consolidation measures were introduced. The fiscal deficit was estimated at 4.4 percent of GDP in the Revised Estimates for 2025–26 and is budgeted at 4.3 percent of GDP in 2026–27. During this period the government has also increased its emphasis on capital expenditure to support economic growth and infrastructure development.

Public expenditure on human development has also increased. Household out-of-pocket expenditure accounted for approximately 39.4 percent of Total Health Expenditure. India's Human Development Index increased from 0.676 in 2022 to 0.685 in 2023 and India ranked 130th among 193 countries. The study concludes that fiscal consolidation and human development can be achieved together through efficient allocation of public resources. Protecting expenditure on education health nutrition and social protection while directing public borrowing towards productive investment is essential for achieving inclusive and sustainable development in India.

Keywords: Fiscal Deficit, Human Development, Union Budget, Public Expenditure, Education, Health, Fiscal Policy, India, Human Capital.

INTRODUCTION

Fiscal policy plays an important role in the economic development of a country through taxation, public expenditure, borrowing and debt management and the government influences the level and distribution of economic activity. In developing countries fiscal policy has an additional responsibility. It must promote economic growth while improving social welfare and expanding human capabilities. India's development experience reflects this dual role of fiscal policy. Since independence the government has used public expenditure to support economic planning, infrastructure development, poverty reduction, education, healthcare and social security. With the economic liberalisation in 1991 the role of fiscal policy gradually changed to promote greater emphasis was placed on macroeconomic stability, fiscal discipline, market-oriented reforms and private investment. At the same time the government continued to finance social and economic infrastructure. The fiscal deficit is an important indicator of the financial position of the government. It represents the difference between total government expenditure and total receipts excluding debt receipts. A fiscal deficit is not necessarily undesirable. Government borrowing can support economic development when it is used for productive expenditure such as infrastructure development, education, healthcare and other investments that increase future productive capacity. The policy challenge arises when fiscal deficits remain high for a prolonged period and are increasingly associated with unproductive expenditure. A large interest burden can also reduce the resources available

Education, healthcare, nutrition access to basic services and a decent standard of living are important components of human development. The relationship between fiscal deficits and human development is therefore complex. A government may incur a fiscal deficit to finance infrastructure school, hospitals and social development programmes. In such cases borrowing can contribute to long-term economic growth and human development. However, a large fiscal deficit caused mainly by interest payments administrative expenditure or poorly targeted subsidies may provide limited long-term benefits. It may also reduce the fiscal space available for investment in human capital. India's recent fiscal experience makes this issue particularly important. The COVID-19 pandemic created a severe economic and public health crisis. Government expenditure increased significantly while revenue collection was affected by the slowdown in economic activity. As a result, the fiscal deficit of the Union Government increased sharply during the pandemic period. After the pandemic the government gradually adopted a path of fiscal consolidation while continuing to increase capital expenditure.

The Union Budget 2026–27, the fiscal deficit is estimated at 4.3 percent of GDP in 2026–27 compared with 4.4 percent of GDP in the Revised Estimates for 2025–26. The government has also indicated a medium-term objective of reducing the debt-to-GDP ratio to around 50 ± 1 percent by 2030. These developments indicate an attempt to balance fiscal sustainability with continued public investment. The improvement in HDI, indicates progress but also highlights the need for continued investment in education healthcare and other human development sectors.

Public expenditure on education and healthcare can improve productivity employment opportunities health outcomes and social mobility. It can also reduce inequality and strengthen the long-term productive capacity of the economy. The effectiveness of human development expenditure depends not only on the amount allocated but also on the efficiency and quality of spending. Higher budgetary allocations do not automatically result in better outcomes. Effective implementation institutional capacity proper targeting monitoring and accountability are essential for converting financial resources into measurable improvements in human development. It is also important to recognize the federal structure of India. Education and healthcare involve substantial expenditure by State Governments. Therefore, human development expenditure cannot be assessed solely on the basis of Union Government allocations. The combined expenditure of the Union and State Governments provides a more comprehensive picture of India's public investment in human development.

The central argument of the study is that fiscal consolidation and human development should not be treated as competing objectives. A well-designed fiscal policy can maintain macroeconomic stability while protecting essential social expenditure and promoting productive public investment. The quality of fiscal adjustment is therefore more important than a simple reduction in the fiscal deficit. In the Indian context a balanced fiscal strategy should focus on improving revenue mobilization controlling inefficient expenditure protecting essential social-sector programmes and increasing investment in education healthcare nutrition skills and infrastructure. Such an approach can strengthen human capital while maintaining long-term fiscal sustainability. Therefore, the present research paper analyses India's fiscal deficit and public expenditure from the perspective of human development. It seeks to assess whether the changing pattern of Union Budgetary expenditure is consistent with India's long-term requirements for inclusive economic growth and sustainable human development.

Review of Literature:

Keynes (1936) emphasised that government expenditure plays an important role in maintaining economic activity and employment, particularly during periods of economic slowdown. This provides a theoretical basis for using fiscal policy to support growth during economic crises. Musgrave (1959) explained that public finance performs allocation, distribution and stabilisation functions. Government expenditure on education, healthcare and infrastructure is important because these services generate wider social benefits and cannot always be adequately provided through markets. Schultz (1961) and Becker (1964) developed the human capital approach and argued that expenditure on education, training and health should be considered investment in human capital. Such investment improves productivity, employment opportunities and income. Sen (1999) argued that development should be understood as the expansion of people's capabilities and freedoms rather than merely an increase in income. From this perspective, education and

healthcare are essential components of human development as well as important contributors to economic productivity. Jain and Kumar (2013) examined government expenditure in India and highlighted the importance of expenditure composition for economic growth. Their findings suggest that productive expenditure and capital formation can generate stronger growth effects than expenditure that does not contribute directly to productive capacity. Bose and Bhanumurthy (2015) examined fiscal multipliers in India and found that government investment can generate significant economic effects. Their findings support the argument that deficit-financed productive expenditure can contribute to economic growth when government resources are allocated efficiently.

Reserve Bank of India (2023) emphasised the importance of improving the quality of public expenditure while maintaining fiscal sustainability. Its analysis of State finances highlighted the role of capital expenditure in supporting infrastructure, productivity and long-term economic growth. Solanki et al. (2025) examined the quality of public expenditure in India and concluded that the composition of expenditure is important for its developmental impact. Their analysis highlighted the importance of capital expenditure and the need to manage interest payments and revenue expenditure effectively. UNDP (2025) reported that India's Human Development Index increased from 0.676 in 2022 to 0.685 in 2023, with India ranking 130th among 193 countries. This indicates improvement in human development while also highlighting the continued need for greater investment in education, healthcare and living standards. Their impact depends on the size, sustainability and composition of government expenditure. Productive expenditure on infrastructure, education and healthcare can support economic growth and human development, while persistent deficits accompanied by high interest payments may reduce fiscal space for social-sector expenditure. This provides the basis for examining India's Union Budget trends and the relationship between fiscal consolidation and human development expenditure in the present study.

Existing literature largely examines fiscal deficits, fiscal multipliers, public expenditure or human development separately. The present study brings these dimensions together by examining the fiscal deficit, expenditure composition, education and health expenditure and HDI within the recent Indian fiscal consolidation context.

Research Methodology:

The present study is descriptive and analytical in nature and examines fiscal deficits and human development expenditure in India. The study is based on secondary data collected from the Ministry of Finance, Union Budget documents, Budget at a Glance, Expenditure Profiles, Ministry of Education, Ministry of Health and Family Welfare, National Health Accounts, Reserve Bank of India, Economic Survey and United Nations Development Programme. The study covers the period from 2010–11 to 2026–27 with special emphasis on recent fiscal developments and the post-COVID-19 period. The analysis uses trend analysis, percentage analysis, comparative analysis, budgetary composition analysis and sectoral expenditure analysis to examine changes in fiscal deficits and expenditure on education, health and other human development sectors. The study also provides a qualitative assessment of major fiscal policy changes and fiscal consolidation measures. However, it does not establish a direct causal relationship between fiscal deficit and human development because HDI is influenced by several factors such as economic growth, demographic conditions, private expenditure, institutional quality and State Government policies.

Table No. 1 Descriptive Statistics

Variable			Mean	Std. Dev.	Minimum	Maximum
Fiscal Deficit (% GDP)			7.7929	1.9707	5.8000	13.1000
HDI			0.6376	0.0270	0.5900	0.6850
Health Index			0.7602	0.0239	0.7260	0.8000
Education Index			0.5356	0.0306	0.4770	0.5890
Income Index			0.6369	0.0287	0.5920	0.6810
Log GDP per capita			7.4184	0.1900	7.1188	7.7096
Inflation (%)			8.2500	3.0224	3.1000	13.1000
Electricity Access (%)			89.9786	8.1125	76.3000	99.6000
Secondary Enrollment (%)			74.4029	4.8822	64.9500	81.1800
Capital GDP)	Expenditure	(%	1.6414	0.2915	1.3400	2.3200
Interest Payments (% GDP)			3.2121	0.1465	3.0100	3.4500

The table no.1 summarizes descriptive statistics including the central tendency and variability of major fiscal and human-development indicators over 2010–2023. The wide range in the fiscal-deficit variable reflects the exceptional deterioration during the COVID-19 period, while HDI and its dimensions show a generally upward long-run movement with temporary pandemic-related disturbances. The variation in capital expenditure and interest payments also indicates changes in the composition of public finances.

Conceptual Framework

Fiscal Deficit in India: In India, the fiscal deficit represents the excess of total expenditure of the Union Government

over its total receipts excluding debt receipts. It indicates the amount that the government needs to borrow to finance its expenditure. The fiscal deficit is an important indicator of the fiscal position of the Indian government because it reflects the extent to which government expenditure is financed through borrowing. Fiscal deficit can be used for infrastructure development, capital formation, education, healthcare, social welfare, defense and other government responsibilities. The economic impact of fiscal deficit depends largely on the purpose and efficiency of expenditure. India experienced a major increase in the fiscal deficit during the COVID-19 pandemic. The Union Government's fiscal deficit reached 9.2 percent of GDP in 2020–21. This increase was associated with higher public expenditure during the pandemic and lower government revenues. After the pandemic the government adopted a gradual fiscal consolidation strategy. The fiscal deficit declined to 4.4 percent of GDP in the Revised Estimates for 2025–26 and has been budgeted at 4.3 percent of GDP for 2026–27. The total expenditure of the Union Government is estimated at ₹53.5 lakh crore in 2026–27, while non-debt receipts are estimated at ₹36.5 lakh crore. The government has estimated gross market borrowing at ₹17.2 lakh crore for 2026–27. These figures show that India is attempting to maintain fiscal discipline while continuing public investment. The important issue is therefore not simply whether the fiscal deficit is high or low but whether government borrowing is being used for productive expenditure that can generate future economic and social returns.

Revenue Deficit in India: Revenue deficit occurs when revenue expenditure exceeds revenue receipts. Revenue deficit is important in the Indian context because it indicates whether the government is using borrowing to finance its current expenditure. A high and persistent revenue deficit can create fiscal pressure because borrowing is being used to meet recurring expenditure rather than primarily creating assets. According to the projections of the Sixteenth Finance Commission, the Union Government's revenue deficit was estimated at ₹5.24 lakh crore in 2025–26 and is projected at ₹4.82 lakh crore in 2026–27. The projected revenue deficit therefore remains significant even though fiscal consolidation is continuing.

Primary Deficit in India: The primary deficit is useful for understanding the current fiscal position of the government without the burden created by past borrowing. This distinction is particularly important in India because interest payments constitute a substantial component of Union Government expenditure. The Union Government's fiscal deficit was estimated at 4.4 percent of GDP in 2025–26 RE and is budgeted at 4.3 percent of GDP in 2026–27 BE. The Budget documents also indicate that the primary deficit is expected to remain much lower than the fiscal deficit during the period. The interest burden is substantial. The Sixteenth Finance Commission's projections place Union Government interest payments at approximately ₹12.76 lakh crore in 2025–26 and ₹13.34 lakh crore in 2026–27. This indicates that a considerable amount of government revenue is required to service past debt. High interest payments can reduce the fiscal space available for education, healthcare, nutrition and other development expenditure. Therefore, maintaining debt sustainability is important for protecting long-term human development expenditure.

Public Debt and Fiscal Sustainability in India: Public debt is closely connected with fiscal deficit because persistent fiscal deficits are generally financed through borrowing. When borrowing continues over a long period, the outstanding liabilities of the government increase. The Union Government's outstanding liabilities were projected at approximately ₹200.16 lakh crore in 2025–26 and ₹213.61 lakh crore in 2026–27 according to the projections presented by the Sixteenth Finance Commission. The Union Budget 2026–27 estimates the Union Government's debt-to-GDP ratio at 55.6 percent, compared with 56.1 percent in the Revised Estimates for 2025–26. The government has set a medium-term objective of reducing the debt-to-GDP ratio to approximately 50 ± 1 percent by 2030. The decline in the debt ratio indicates the government's intention to combine fiscal consolidation with economic growth. For India, maintaining debt sustainability is important because a rising debt burden can increase interest payments and reduce resources available for social and developmental expenditure.

Human Development in India: Human development refers to the expansion of people's capabilities and opportunities. It is broader than economic growth because it focuses on improvements in health, education and living standards. The Human Development Index developed by the United Nations Development Programme measures three major dimensions: A long and healthy life, Knowledge and decent standard of living. According to the UNDP Human Development Report 2025, India's HDI increased from 0.676 in 2022 to 0.685 in 2023.

India's rank improved from 133 in 2022 to 130 in 2023 among 193 countries. India remained in the medium human development category. India's life expectancy increased from 71.7 years in 2022 to 72.0 years in 2023. Mean years of schooling increased from 6.57 years to 6.88 years. Expected years of schooling were approximately 12.95 years in 2023. GNI per capita increased from \$8,475.68 in 2022 to \$9,046.76 in 2023, measured in 2021 purchasing power parity dollars. These statistics indicate improvement in India's human development. However, the country continues to face challenges relating to inequality, quality of education, healthcare access, nutrition, employment and regional disparities. UNDP estimates that inequality reduces India's HDI by approximately 30.7 percent.

Public Expenditure on Education in India: Education is one of the most important components of human capital formation. Public expenditure on education in India includes spending on school education, higher education, teacher training, scholarships, research, digital education and educational infrastructure. The Government of India's analysis of public expenditure on education shows that total expenditure on education by the Centre and States/Union Territories increased from 3.87 percent of GDP in 2017–18 to 4.06 percent of GDP in 2022–23. The Centre's share increased from 0.99 percent of GDP in 2011–12 to 1.09 percent in 2022–23, while the States and Union Territories' share increased from 2.84 percent to 2.97 percent of GDP during the same period. The data indicate that education expenditure remains below the widely accepted policy objective of 6 percent of GDP. This gap is important for India because the quality and accessibility of education have a direct impact on employment, productivity, income and social mobility. Education expenditure also has a long-term impact on human development. Higher investment in schools, teachers, higher

education, research and skill development can improve the quality of India's labour force and contribute to higher productivity.

The Union Government's education expenditure has also expanded. The Ministry of Education received substantial budgetary support for school education and higher education. Major programmes such as Samagra Shiksha, scholarships and support to institutions such as Kendriya Vidyalayas and Jawahar Navodaya Vidyalayas form part of the government's education expenditure framework. For example, the Budget Estimate for Samagra Shiksha was ₹37,383.36 crore in 2022–23.

Public Expenditure on Health in India: Healthcare is a fundamental component of human development because health directly influences life expectancy, productivity, education and household economic security. According to the National Health Accounts 2021–22, India's Total Health Expenditure was ₹9,04,461 crore, equivalent to 3.83 percent of GDP. Government Health Expenditure was ₹4,34,163 crore, equivalent to 1.84 percent of GDP and 48 percent of Total Health Expenditure. Government Health Expenditure was approximately ₹3,169 per capita. The National Health Accounts also provide important information about the Centre-State structure of health expenditure. The Union Government accounted for approximately 41.8 percent of Government Health Expenditure, while State Governments accounted for approximately 58.2 percent. This demonstrates that health expenditure in India cannot be analysed only through the Union Budget. State Government expenditure is equally important. The health expenditure figures also demonstrate a positive change in financial protection. Household out-of-pocket expenditure was ₹3,56,254 crore in 2021–22, representing 39.4 percent of Total Health Expenditure and approximately 1.51 percent of GDP. The decline in the relative burden of out-of-pocket expenditure is an important development because high household health expenditure can push vulnerable families into poverty. Increased public expenditure on primary healthcare, health insurance, hospitals and preventive healthcare can therefore contribute to both health improvement and poverty reduction.

Union Government Expenditure on Health: The Union Government finances several major health programmes and institutions. The National Health Accounts show that Union Government expenditure included approximately ₹36,371 crore on the National Health Mission, ₹13,468 crore on Defence Medical Services, ₹5,866 crore on Railway Health Services, ₹5,167 crore on the Central Government Health Scheme and ₹4,595 crore on the Ex-Servicemen Contributory Health Scheme in 2021–22. These figures demonstrate that Union Government health expenditure extends beyond the Ministry of Health and Family Welfare. A comprehensive analysis should therefore consider expenditure across different ministries and government programmes where health-related expenditure is involved. This is particularly important for the present research because human development expenditure is not always captured by a single ministry. Expenditure on nutrition, drinking water, sanitation, housing and rural development also contributes indirectly to health and human development.

Other Components of Human Development in India: Human development in India extends beyond education and healthcare. Other important components include nutrition, drinking water, sanitation, housing, employment, skill development and social protection. Government expenditure on these sectors contributes to human development through multiple channels. Nutrition programmes can reduce malnutrition and improve learning outcomes. Drinking water and sanitation can reduce disease. Skill development can increase employability and labour productivity. Social protection can reduce vulnerability and protect household consumption during economic shocks. Fiscal consolidation refers to measures adopted by the government to reduce the fiscal deficit and stabilise public debt. India has been following a gradual fiscal consolidation path after the COVID-19 pandemic. The fiscal deficit declined from 9.2 percent of GDP in 2020–21 to 4.4 percent in the Revised Estimates for 2025–26 and is budgeted at 4.3 percent in 2026–27. The challenge is to ensure that fiscal consolidation does not disproportionately affect expenditure on education, healthcare and social protection. A reduction in the fiscal deficit achieved through cuts in essential human development expenditure may improve short-term fiscal indicators but could weaken long-term economic and social outcomes.

Centre-State Dimension of Human Development Expenditure: India's federal structure is critical for understanding public expenditure on human development. Education and health are areas in which State Governments play a major role. The National Health Accounts provide clear evidence of this structure. In 2021–22, State Governments accounted for 58.2 percent of Government Health Expenditure, while the Union Government accounted for 41.8 percent. Similarly, the Ministry of Education's expenditure analysis shows that State and Union Territory governments accounted for approximately 2.97 percent of GDP in education expenditure in 2022–23, compared with 1.09 percent by the Centre. Therefore, analysing only the Union Budget may underestimate India's overall public investment in human development. Transfers to States, tax devolution, grants and Centrally Sponsored Schemes also influence the capacity of States to finance education, healthcare and social development.

Conceptual Relationship Between Fiscal Policy and Human Development: The conceptual framework of the study focuses on the relationship between fiscal deficit, public expenditure and human development in India. Government borrowing arising from fiscal deficits can finance education, healthcare, infrastructure and social protection, which strengthen human capital, productivity, employment and income. However, persistent fiscal deficits can increase public debt and interest payments and reduce the fiscal space for social-sector expenditure. India's fiscal deficit increased to 9.2 percent of GDP in 2020–21 during the COVID-19 pandemic but declined to 4.4 percent in the Revised Estimates for 2025–26 and is budgeted at 4.3 percent in 2026–27. During the same period India's HDI increased from 0.676 in 2022 to 0.685 in 2023. Therefore, the impact of fiscal deficit on human development depends not only on its size but also on the quality and composition of public expenditure. India needs fiscal consolidation that protects essential investment in education, healthcare, nutrition and social protection while maintaining fiscal sustainability and supporting inclusive development.

Evolution of Fiscal Deficit in India: India's fiscal deficit has changed significantly over time. The Union Government's fiscal deficit increased sharply during the COVID-19 pandemic and reached 9.2% of GDP in 2020–21. This was mainly due to higher government expenditure and lower revenue during the economic crisis. The deficit gradually declined after the pandemic as fiscal consolidation was adopted. It was estimated at 4.4% of GDP in Revised Estimates for 2025–26 and 4.3% of GDP in Budget Estimates for 2026–27. The reduction indicates a gradual return towards fiscal discipline. At the same time the government has continued to support capital expenditure. Therefore, India's recent fiscal policy attempts to combine fiscal consolidation with economic and social development.

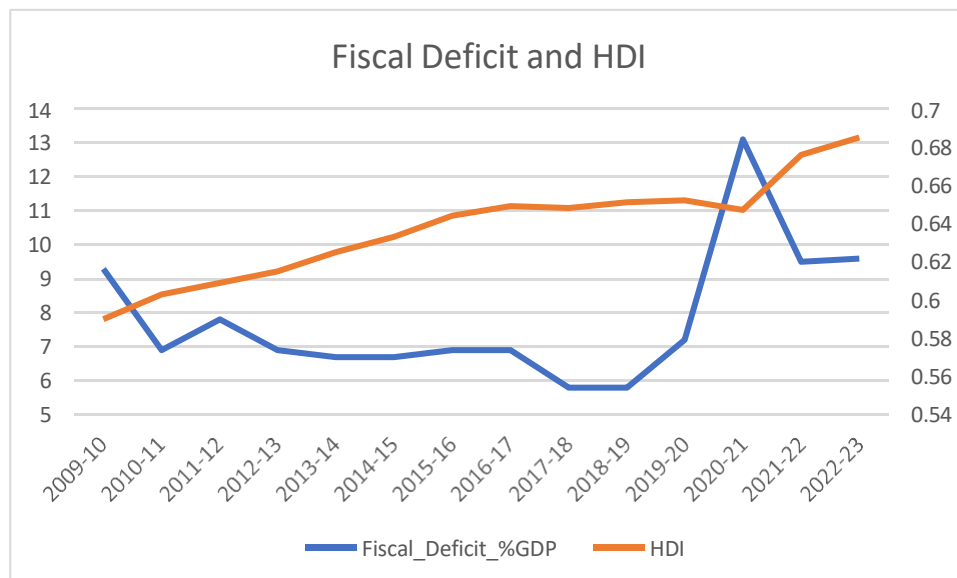


Figure 1: India's Fiscal Deficit and HDI, 2010–2023

Source: Author's calculations using RBI, World Bank and Global Data Lab/UNDP data.

Figure 1 compares India's fiscal deficit with HDI during 2010–2023. The fiscal deficit shows substantial fluctuations, with an exceptional increase during the COVID-19 period, whereas HDI follows a substantially smoother long-term trajectory. This indicates that short-term fiscal fluctuations do not translate mechanically into proportional changes in HDI.

Composition of Fiscal Deficit and Public Expenditure: The size of the fiscal deficit alone does not explain its economic impact. The composition of expenditure is equally important. In 2026–27 total Union Government expenditure is estimated at ₹53.5 lakh crore while non-debt receipts are estimated at ₹36.5 lakh crore. Gross market borrowing is estimated at ₹17.2 lakh crore. The government has placed greater emphasis on capital expenditure which can create productive assets. At the same time interest payments remain a major fiscal commitment. Therefore, the developmental impact of the fiscal deficit depends on whether borrowing is used for productive investment or recurring expenditure.

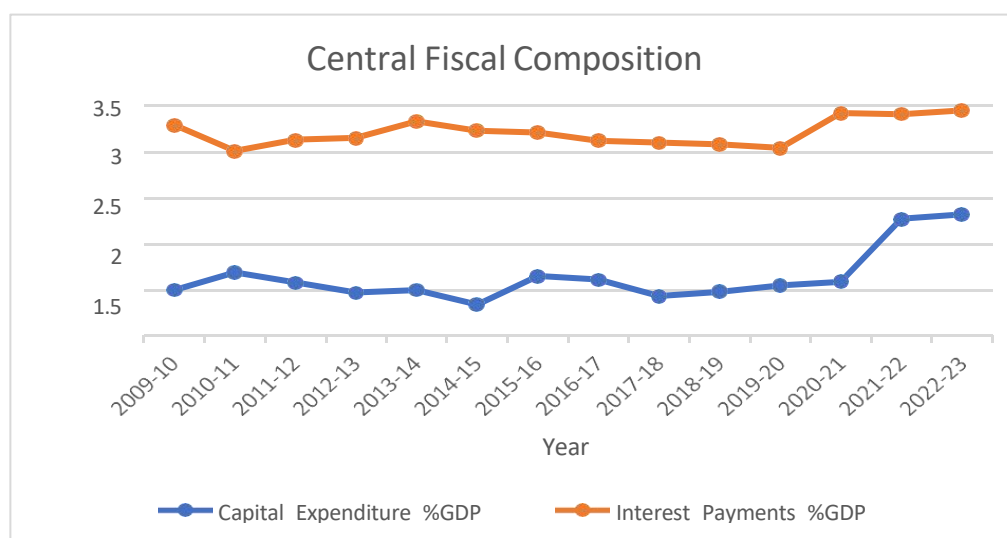


Figure 2: Central Government Fiscal Composition, 2010–2023

Source: Author's calculations using RBI, World Bank and Global Data Lab/UNDP data.

The figure contrasts capital expenditure with interest payments. It helps support the paper's argument that the composition and quality of fiscal expenditure matter in addition to the headline deficit.

Fiscal Consolidation and Capital Expenditure: Fiscal consolidation has become an important part of India's post-pandemic fiscal strategy. The fiscal deficit declined from 9.2% of GDP in 2020–21 to 4.3% in 2026–27 BE. At the same time effective capital expenditure of the Union Government is estimated at ₹17.15 lakh crore in 2026–27 or 4.4% of GDP. This includes Union capital expenditure and grants to States for creation of capital assets. Such investment can improve roads railways digital infrastructure and other productive facilities. Therefore, fiscal consolidation in India has increasingly focused on controlling the deficit while protecting productive public investment.

Public Expenditure on Education: Education is a major component of human capital formation in India. Total public expenditure on education by the Centre and States/UTs increased from 3.87% of GDP in 2017–18 to 4.06% in 2022–23. The Centre's share increased from 0.99% of GDP in 2011–12 to 1.09% in 2022–23. The share of States and UTs increased from 2.84% to 2.97% of GDP during the same period. These figures show that States play a major role in financing education. However total public expenditure remains below the long-term policy aspiration of around 6% of GDP.

Union Budget Allocation for Education: The Union Government has increased its allocation to education. The Ministry of Education received ₹1,39,289.48 crore in 2026–27 which represents an 8.27% increase over the 2025–26 Budget Estimate. The allocation supports school education higher education research skill development and other educational programmes. Increased expenditure can improve educational infrastructure and human capital. However, the effectiveness of expenditure depends on learning outcomes teacher availability research quality and access to technology. Therefore higher allocation should be accompanied by improved efficiency and accountability.

Public Expenditure on Health: Government health expenditure has increased substantially in India. According to the National Health Accounts for 2021–22 Total Health Expenditure was

₹9,04,461 crore or 3.83% of GDP. Government Health Expenditure was

₹4,34,163 crore which represented 1.84% of GDP and 48% of Total Health Expenditure. Government health expenditure per person was approximately ₹3,169. States accounted for 58.2% of Government Health Expenditure while the Union Government accounted for 41.8%. This demonstrates the importance of State Government expenditure in India's health system.

Household Health Expenditure and Financial Protection: Public health expenditure has an important relationship with household financial security. Household out-of-pocket expenditure was ₹3,56,254 crore in 2021–22 and represented 39.4% of Total Health Expenditure. This share declined from 62.6% in 2014–15 to 39.4% in 2021–22. During the same period Government Health Expenditure increased from 1.13% to 1.84% of GDP. The share of government expenditure in Total Health Expenditure increased from 29% to 48%. These changes indicate improvement in financial protection but households still bear a considerable health expenditure burden.

Human Development Outcomes in India: India has recorded improvement in human development indicators. According to the UNDP Human Development Report 2025 India's HDI increased from 0.676 in 2022 to 0.685 in 2023. India's rank improved from 133 to 130 out of 193 countries. Life expectancy increased from 71.7 years to 72.0 years while mean years of schooling increased from 6.57 years to 6.88 years. GNI per capita increased from \$8,475.68 to \$9,046.76 in 2021 PPP dollars. India remains in the medium human development category.

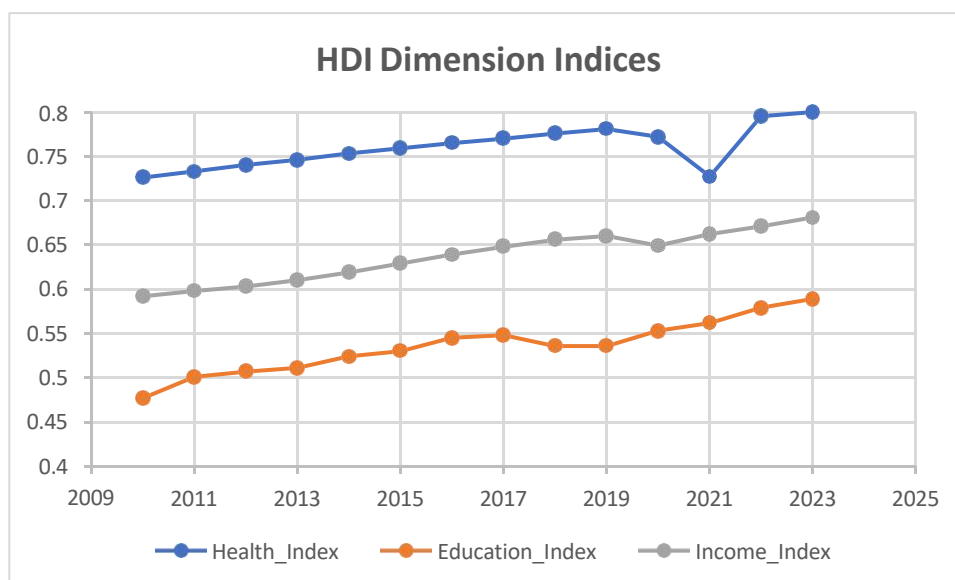


Figure 3: HDI Dimension Indices, 2010–2023

Figure 2 demonstrates that the three dimensions of human development have followed different trajectories during the study period. Therefore, analysis based only on the composite HDI may conceal important differences between health, education and income dimensions.

Global Data Lab provides annual national health, educational and income indices alongside HDI.

Fiscal Deficit and Human Development Relationship: The relationship between fiscal deficit and human development depends on the quality of government expenditure. Borrowing can support human development when it finances education healthcare infrastructure nutrition and social protection. However persistent deficits can increase public debt and interest payments and reduce future fiscal space. India's experience shows both sides of this relationship. During COVID-19 the fiscal deficit increased to 9.2% of GDP while government health spending increased significantly. Subsequently the deficit declined to 4.3% of GDP while public investment continued. Therefore, the developmental effect of fiscal deficit depends more on expenditure composition and efficiency than on the deficit figure alone.

Fiscal Sustainability and Human Development: India faces the challenge of maintaining fiscal sustainability while increasing investment in human capabilities. The Union Government's debt-to-GDP ratio is estimated at 55.6% in 2026–27 compared with 56.1% in 2025–26 RE. The government has therefore adopted a gradual debt consolidation approach. At the same time India needs higher-quality expenditure on education health nutrition skill development and social protection. India's HDI of 0.685 in 2023 shows improvement but also indicates that substantial development challenges remain. The central policy requirement is therefore to reduce inefficient expenditure and protect high-priority human development expenditure. A balanced fiscal strategy can combine fiscal stability with human capital formation and inclusive development.

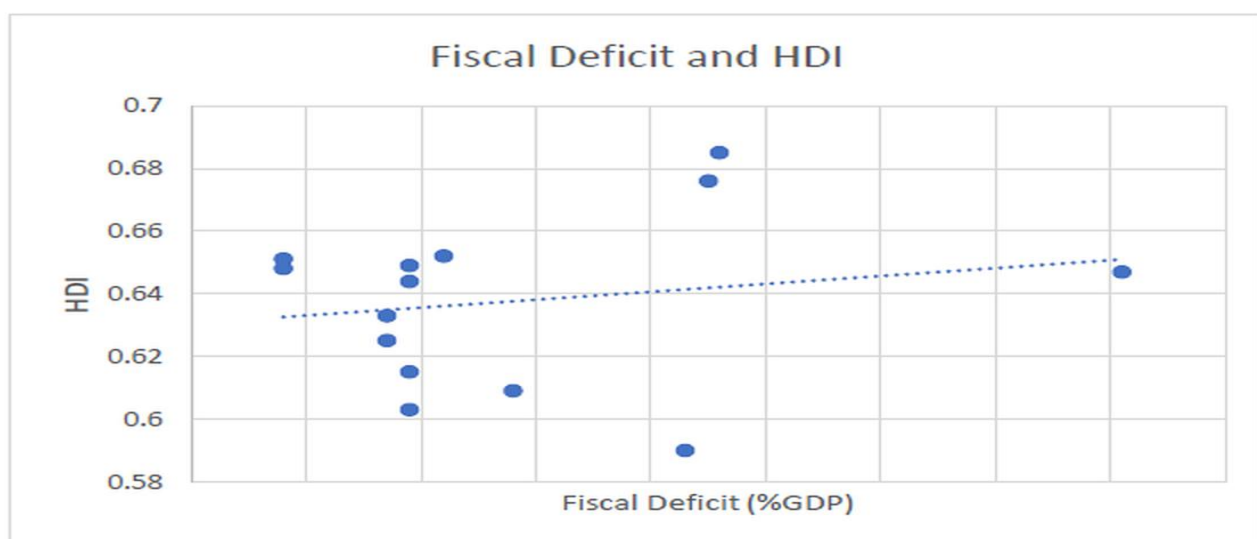
Empirical Evidences

Table No. 2 Correlation of HDI with Major Variables

Variable	Correlation with HDI
lnGDPpc	0.975
Income_Index	0.973
Education_Index	0.973
Electricity_Access_pct	0.941
Secondary_Enrollment_pct	0.913
Health_Index	0.864
Central_Capital_Expenditure_pctGDP	0.623
Central_Interest_Payments_pctGDP	0.386
Fiscal_Deficit_pctGDP	0.184
Inflation_CPI_IW	-0.324

The correlation analysis indicates the direction and strength of the bivariate association between HDI and the selected fiscal and socioeconomic variables. The results provide preliminary evidence regarding the relationship between fiscal conditions and human development. However, the correlation coefficients should not be interpreted as causal effects because the variables are annual time-series observations and may share common trends.

Figure 4 : Fiscal Deficit and HDI: Bivariate Relationship



Author's calculations using RBI, World Bank and Global Data Lab/UNDP data

Figure 4 : Fiscal Deficit and HDI: Bivariate Relationship

Source: Author's calculations using RBI, World Bank and Global Data Lab/UNDP data.

The fitted line summarises the sample's unconditional association between the fiscal deficit and HDI. The figure should be described as descriptive evidence only because both series have strong time dimensions.

Table No. 3 Selected-year comparison

Year	Fiscal Deficit	HDI	Health	Education	Income
2010	9.300	0.590	0.726	0.477	0.592
2015	6.700	0.633	0.759	0.530	0.629
2019	5.800	0.651	0.781	0.536	0.660
2020	7.200	0.652	0.772	0.553	0.649
2021	13.100	0.647	0.727	0.562	0.662
2022	9.500	0.676	0.795	0.579	0.671
2023	9.600	0.685	0.800	0.589	0.681

Source: Author's calculations using RBI, World Bank and Global Data Lab/UNDP data.

The selected-year comparison highlights changes in India's fiscal position and human-development outcomes at important stages of the study period. The year 2020 is particularly important because the fiscal deficit increased sharply during the COVID-19 shock, while human-development indicators experienced temporary disruption. The subsequent observations show the movement of HDI and its dimensions during the fiscal consolidation phase.

The 2022–2023 HDI improvement is consistent with UNDP's published figures: India's HDI increased from 0.676 in 2022 to 0.685 in 2023.

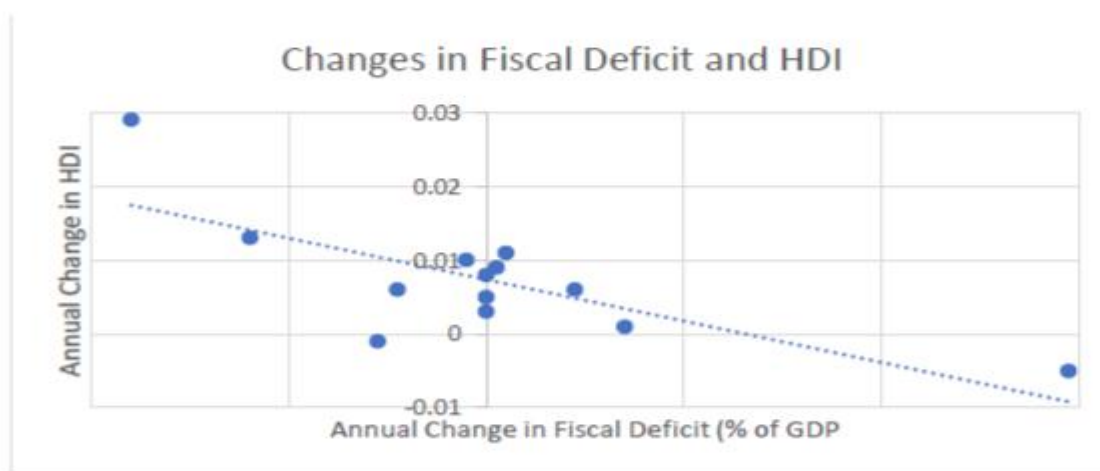
Table 4. Trend analysis

Variable	Annual trend coefficient	p-value	R ²
HDI	0.0062	0.0000	0.9244
Health Index	0.0042	0.0028	0.5382
Education Index	0.0070	0.0000	0.9133
Income Index	0.0067	0.0000	0.9615
Fiscal Deficit	0.1651	0.2194	0.1228
Capital Expenditure	0.0392	0.0365	0.3159
Interest Payments	0.0145	0.1414	0.1712

Source: Author's calculations using RBI, World Bank and Global Data Lab/UNDP data.

The trend estimates show whether the selected indicators exhibit systematic movement over the study period. The results should be interpreted as descriptive time trends rather than structural or causal relationships because common trends can generate statistically significant associations.

Figure 5: Annual Changes in Fiscal Deficit and HDI



Source: Author's calculations using RBI, World Bank and Global Data Lab/UNDP data.

Interpretation: The change-based scatter plot focuses on short-run co-movement rather than levels. It provides a useful

visual complement to the dynamic regression results reported elsewhere in the paper.

Source: Author's calculations using RBI, World Bank and Global Data Lab/UNDP data.

Table 5. Correlation of annual changes

Variable	Correlation with Annual Δ HDI
Annual Δ Fiscal Deficit	-0.750
Annual Δ Capital Expenditure	0.778
Annual Δ Interest Payments	-0.361

Source: Author's calculations using RBI, World Bank and Global Data Lab/UNDP data.

The change-based correlation analysis focuses on short-run co-movement by examining annual changes rather than levels. This provides a more appropriate preliminary assessment of whether changes in fiscal conditions are accompanied by changes in human development. Nevertheless, the estimates remain bivariate associations and do not establish causality.

Conclusion:

The relationship between fiscal deficits and human development in India is complex and depends mainly on the quality of public expenditure. A fiscal deficit can support development when government borrowing is used for productive investment in infrastructure, education and healthcare. India's fiscal deficit increased sharply to 9.2% of GDP in 2020–21 during the COVID-19 pandemic. It subsequently declined to 4.4% of GDP in 2025–26 RE and is budgeted at 4.3% in 2026–27. This indicates a gradual shift towards fiscal consolidation and debt sustainability. At the same time, the government continues to emphasise capital expenditure and infrastructure development. The Ministry of Education received ₹1,39,289.48 crore in 2026–27 for school and higher education. The Ministry of Health and Family Welfare received ₹1,06,530.42 crore in the same year. According to National Health Accounts, Government Health Expenditure was 1.84% of GDP in 2021–22. States accounted for 58.2% of Government Health Expenditure which highlights the importance of Centre-State fiscal coordination. India's HDI increased from 0.676 in 2022 to 0.685 in 2023 and India ranked 130th among 193 countries. However, India remains in the medium human development category and faces challenges in education, health, nutrition and employment. Therefore, fiscal consolidation should protect essential social-sector expenditure while improving expenditure efficiency. In the long run, fiscal sustainability combined with investment in human capabilities can support inclusive growth and sustainable human development.

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