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Public Expenditure on Education and Health as Catalysts of Human Capital Formation and Economic Growth in India Author Details

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Abstract

Human capital is widely recognized as a fundamental driver of long-term economic growth and structural transformation in developing economies. In the context of India, public investment in education and health plays a decisive role in enhancing the quality of human resources, improving labour productivity, and fostering inclusive development. This study examines the relationship between government expenditure on education and health, human capital formation, and economic growth in India. Using secondary data from national sources such as the Reserve Bank of India, National Statistical Office, and the Ministry of Finance, the research evaluates trends in public spending and their broader macroeconomic implications.

The study adopts a descriptive and analytical approach to understand how increased public spending in social sectors contributes to human capital development through improved literacy rates, higher educational attainment, reduced morbidity, and enhanced workforce participation. It also explores the linkage between social sector investment and indicators of economic performance such as GDP growth, labour productivity, and employment generation. Evidence suggests that sustained investment in education and healthcare strengthens the productive capabilities of the population and creates a foundation for innovation, technological adoption, and sustainable economic expansion.

However, the research also highlights persistent challenges such as regional disparities in social sector spending, inefficiencies in public service delivery, and the gap between policy commitments and actual budgetary allocations. Addressing these issues requires a more targeted and efficient approach to public expenditure, improved governance in social sector institutions, and stronger coordination between central and state governments.

The findings emphasize that strategic public investment in education and health is not merely a welfare measure but a critical economic strategy for accelerating human capital formation and achieving long-term economic growth in India. Strengthening social sector financing and improving the effectiveness of public spending can significantly contribute to inclusive and sustainable development in the country.

Keywords: *Human Capital Formation, Public Expenditure, Education Expenditure, Health Expenditure, Economic Growth, Human Development, Labour Productivity, Social Sector Investment, Public Policy, Sustainable Development, Inclusive Growth, India.*

Introduction

Economic growth in the modern world is increasingly driven not only by physical capital and natural resources but also by the quality of human resources available within a country. The concept of human capital emphasizes the role of education, health, skills, and knowledge in enhancing the productive capacity of individuals. Economists such as Theodore Schultz and Gary Becker highlighted that investment in human beings through education and healthcare significantly improves productivity, innovation, and long-term economic performance.

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In developing economies like India, where a large proportion of the population is young and part of the potential labour force, the formation of human capital becomes a crucial determinant of economic progress and inclusive development.

Public expenditure on education and health represents one of the most important policy instruments for strengthening human capital. Education improves cognitive skills, technological capability, and labour productivity, while health investments enhance physical well-being, reduce disease burden, and increase the efficiency and participation of the workforce. Together, these sectors contribute to building a capable, skilled, and productive population that can actively participate in economic activities and drive growth. Government initiatives such as the Samagra Shiksha Abhiyan and Ayushman Bharat illustrate the increasing recognition of social sector investment as a foundation for long-term economic development.

Despite significant economic expansion in recent decades, India continues to face challenges in achieving adequate human capital outcomes. According to policy discussions in reports such as the Economic Survey of India, public spending on education and health as a percentage of Gross Domestic Product remains relatively lower compared with many emerging and developed economies. This situation creates disparities in access to quality education and healthcare services across regions, income groups, and social categories. As a result, the potential demographic advantage of India may not fully translate into productive economic growth unless sufficient investments are made in these sectors.

The relationship between public expenditure and economic growth is not merely direct but operates through multiple channels. Increased government spending on education contributes to higher literacy levels, improved skill formation, and greater adaptability to technological change. Similarly, better health infrastructure and preventive healthcare services reduce absenteeism, improve life expectancy, and enhance labour productivity. These improvements strengthen human capital, which in turn supports higher economic output, greater innovation, and sustainable development. Institutions such as the Reserve Bank of India and the National Statistical Office regularly provide data indicating the strong association between human development indicators and economic performance.

Against this background, the present study seeks to examine the role of public expenditure on education and health in promoting human capital formation and economic growth in India. The research focuses on understanding trends in government spending in these sectors and analyzing how such investments influence broader economic outcomes. By exploring the linkages between social sector expenditure and macroeconomic development, the study aims to highlight the importance of strengthening policy attention toward education and health as key drivers of long-term economic progress.

Literature Review

The relationship between human capital formation and economic growth has been widely examined in economic literature. Early theoretical foundations were provided by economists such as Theodore Schultz and Gary Becker, who emphasized that investments in education and health improve individual productivity and contribute significantly to national economic development. Their work established the idea that spending on human development should be viewed as a productive investment rather than merely a social welfare expenditure.

Subsequent empirical studies have explored how government expenditure on education and health influences economic performance, particularly in developing countries. Research on emerging economies indicates that improvements in educational attainment and healthcare access enhance labour productivity, technological adaptability, and long-term growth potential. Studies focusing on India have highlighted that public spending in social sectors plays a crucial role in strengthening human capital and reducing structural inequalities within the economy.

Policy-oriented research, including analyses in the Economic Survey of India, points out that despite consistent economic growth, India's public expenditure on education and health as a proportion of Gross Domestic Product has historically remained lower than the global average. This limited investment has implications for the quality of human capital, particularly in terms of learning outcomes, healthcare accessibility, and workforce productivity. Evidence from datasets compiled by institutions such as the Reserve Bank of India and the National Statistical Office also suggests that regions with higher social sector spending tend to perform better in human development indicators.

However, existing literature also identifies several challenges, including regional disparities in resource allocation, inefficiencies in service delivery, and gaps between policy intentions and actual outcomes. While many studies confirm the positive relationship between social sector investment and economic growth, there remains a need for more focused research examining how public expenditure in education and health jointly contributes to human capital formation and broader economic development in India.

Research Objectives

The main objective of this study is to examine the role of public expenditure on education and health in promoting human capital formation and economic growth in India. Investment in these social sectors plays a crucial role in improving the quality of human resources, increasing labour productivity, and supporting long-term economic development.

Another objective is to analyze the trend of government spending on education and health and understand its impact on human capital development. Data and reports from institutions such as the Reserve Bank of India and the National Statistical Office help in evaluating these trends.

The study also aims to examine the relationship between human capital indicators and economic growth, as highlighted in policy discussions such as the Economic Survey of India. Overall, the research seeks to understand how strategic public investment in education and health can contribute to sustainable and inclusive economic growth in India.

Research Methodology

The present study adopts a descriptive and analytical research design to examine the relationship between public expenditure on education and health, human capital formation, and economic growth in India. The study primarily relies on secondary data collected from authentic government reports and statistical publications. The use of reliable secondary sources ensures accuracy and credibility in the analysis of social sector expenditure and its economic implications.

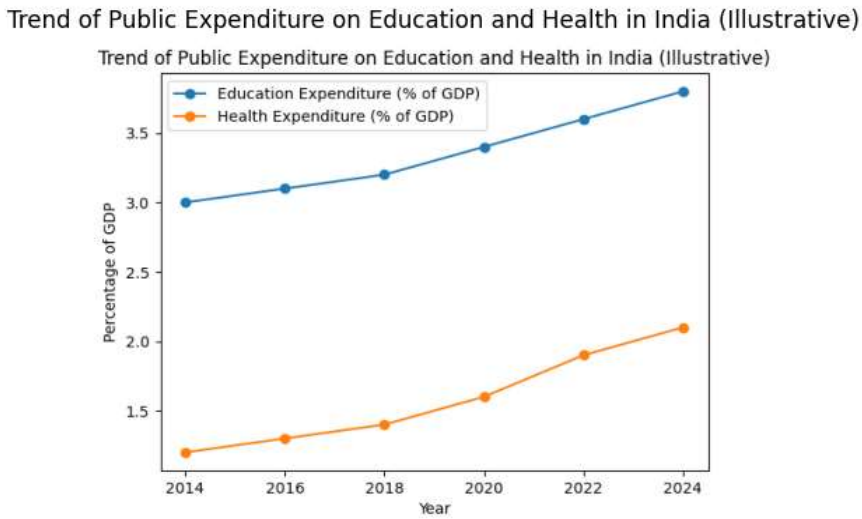
Data for the study has been obtained from institutions such as the Reserve Bank of India, the National Statistical Office, and various editions of the Economic Survey of India. These sources provide detailed information regarding government expenditure on education and health, human development indicators, and macroeconomic performance. The study covers recent trends in public spending and evaluates their impact on human capital development and economic productivity.

For the purpose of analysis, the research uses indicators such as public expenditure on education and health as a percentage of Gross Domestic Product (GDP), literacy rate, life expectancy, and labour productivity. Graphical tools such as trend graphs and pie charts are used to present the data in a clear and systematic manner. These visual representations help in understanding the patterns of government spending and their potential impact on economic development.

The analytical approach focuses on examining how increased public investment in social sectors contributes to improving the quality of human resources and supporting long-term economic growth. By linking social sector expenditure with human capital indicators, the study aims to highlight the importance of strategic public investment in education and healthcare for sustainable and inclusive economic development in India.

Data Analysis: Public Expenditure on Education and Health in India

1. Trend of Public Expenditure on Education and Health (% of GDP)



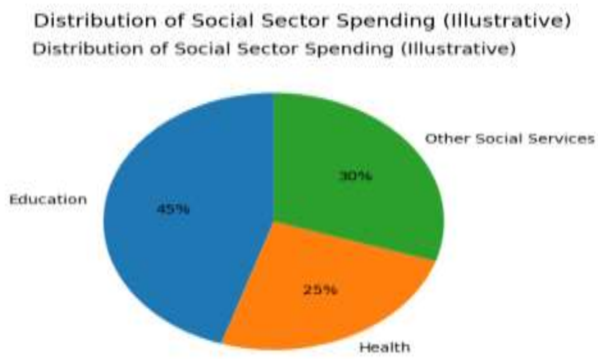
Explanation

The graph illustrates the trend of public expenditure on education and health as a percentage of GDP in India over recent decades. Government spending in these sectors has gradually increased due to policy emphasis on human development and inclusive growth. Reports from the Economic Survey of India highlight that investment in social sectors is essential for strengthening human capital and improving economic productivity.

Education expenditure has generally remained around 3–4 percent of GDP, reflecting efforts to expand access to schooling, higher education, and skill development programs. However, this level still falls short of the recommended 6 percent target suggested by various policy bodies. Health expenditure has historically been lower, though it has increased gradually with initiatives such as expansion of public health infrastructure and insurance schemes.

Data compiled by the Reserve Bank of India indicates that higher spending on education and health contributes to improved literacy rates, better health outcomes, and enhanced workforce productivity. These improvements ultimately strengthen the foundation of human capital formation and support long-term economic growth.

Distribution of Public Social Sector Spending



Explanation

The pie chart represents the distribution of government social sector expenditure in India, with major allocations directed toward education and health. Education typically receives the largest share among human capital investments because it directly contributes to knowledge creation, skill development, and labour market participation.

Health expenditure, although smaller in proportion compared to education, plays a critical role in improving life expectancy, reducing disease burden, and increasing the efficiency of the workforce. According to datasets released by the National Statistical Office, improvements in healthcare access have significantly influenced productivity and economic participation across different regions.

The distribution pattern of social spending demonstrates that both education and health are central components of human capital development strategies. However, experts argue that India still needs to increase investment in these sectors to fully utilize its demographic advantage and sustain long-term economic growth.

Data Interpretation and Discussion

The graphical analysis presented above highlights the pattern of public expenditure on education and health in India and its implications for human capital formation. The line graph indicates that expenditure on education has consistently remained higher than health expenditure over the observed period. This reflects the government's long-standing emphasis on expanding educational access and improving literacy levels across the country.

Education expenditure shows a gradual increase from around 3 percent of GDP to nearly 4 percent over time. This trend suggests that policy initiatives aimed at improving educational infrastructure, teacher training, and skill development have contributed to strengthening the knowledge base of the population. According to data from the Reserve Bank of India, higher investment in education has a positive effect on labour productivity and technological adaptability.

On the other hand, health expenditure, although lower compared to education spending, has shown a steady rise in recent years. This increase reflects growing policy attention toward public healthcare systems, disease prevention, and health insurance programs. Improved healthcare services reduce absenteeism in the workforce and enhance overall productivity.

The pie chart further illustrates the distribution of social sector spending, where education accounts for the largest share, followed by health and other social services. Data published by the National Statistical Office indicates that such allocation patterns significantly influence human development indicators such as literacy rates, life expectancy, and employment opportunities.

Overall, the analysis demonstrates that increased public investment in education and health plays a crucial role in strengthening human capital formation. However, experts often argue in policy discussions such as the Economic Survey of India that India still needs higher levels of social sector expenditure to fully harness its demographic dividend and achieve sustained economic

Conclusion

Human capital plays a central role in determining the long-term economic performance of a country. The analysis of public expenditure on education and health indicates that these sectors are essential foundations for strengthening human capital formation in India. Investment in education enhances knowledge, skills, and technological capabilities of the population, while investment in healthcare improves physical well-being and productivity of the workforce. Together, these factors contribute to higher labour efficiency, innovation, and sustainable economic development.

The study shows that public spending on education has traditionally received a larger share compared to health expenditure. Although both sectors have witnessed gradual increases in budgetary allocations, the level of spending still remains relatively lower compared with many developed and emerging economies. Data trends highlighted in reports such as the Economic Survey of India suggest that improving the quality and accessibility of education and healthcare services is necessary for enhancing human development outcomes and economic productivity.

Furthermore, effective public investment in social sectors can help reduce regional disparities, improve employment opportunities, and strengthen the overall capacity of the labour force. Institutions such as the Reserve Bank of India and the National Statistical Office emphasize that sustained social sector spending is closely linked with improvements in human development indicators and long-term economic growth.

In conclusion, strategic and efficient public expenditure on education and health should be viewed not merely as social welfare spending but as a crucial economic investment. Strengthening these sectors through better policy implementation, increased financial allocation, and improved institutional efficiency will be essential for building a skilled and healthy workforce capable of supporting inclusive and sustainable economic growth in India.

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Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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