

## **DOES ECONOMIC GROWTH ACT AS A MEDIATOR BETWEEN GOVERNMENT SPENDING AND HUMAN DEVELOPMENT? AN INSIGHT FROM NORTHEASTERN INDIA**

NEELAM SHARMA

*Research Scholar*

*Department of Humanities and Social Sciences  
Jaypee University of Information Technology,  
Waknaghat, Solan (HP), INDIA – 173234*

DR. AMIT SRIVASTAVA\*

*Associate Professor & Hod*

*Department of Humanities and Social Sciences  
Jaypee University of Information Technology,  
Waknaghat, Solan (HP), INDIA – 173234*

DR. SAKSHI KHANNA\*

*Assistant Professor*

*University College of Business Studies  
Himachal Pradesh University,  
Chaura Maidan, Shimla (HP), INDIA – 171004*

Government Spending initiatives are accountable for the country's overall performance, which can be quantified through Economic Growth. However, in the modern environment, a country's prime objective is not only to secure Economic Growth but also to accomplish Human Development. The government ensures basic necessities as well as other services such as health care, education, and a decent standard of living. As a consequence, the focus of this study is to shed light on the association between Government Spending and Human Development via mediation effects of Economic Growth for NER of India. The results show that the direct effect exists among Government Spending and Human Development for the majority of NER states. However, partial mediation is found for two NER states. Therefore, it could be said that the Government Spending should be done strategically that it regulates the distribution of income in order to achieve economic efficiency first and thereafter to accomplish Human Development.

*Keywords:* Government Spending, Economic Growth, Human Development, Mediation and NER States.

*JEL codes:* E62, E63, F4, O11

---

\*Email: please provide the details

## Introduction

In the global competitive times, the achievement of growth and development becomes the central issue for countries all over the world. Here comes the utmost significance of government spending, as it is major government intervention and a tool in the hands of governments for social wellbeing. The spending made by the government authorities plays an essential role in the endorsement of economic growth and development by the transfer of income in such a way that the distinct objectives of the state could be achieved (Prest, 1959). However, economic transactions for social wellbeing are being performed by the government from the last so many decades. Talking about its origin, this would be traced back to the commencement of civilization itself (Gangopadhyay, 2023; Mariya and Kennedy, 2012; Gangopadhyay, 2007).

Until the nineteenth century, the government and its operations were restricted to the laissez-faire philosophies. In this system (laissez-faire) government interventions were very much limited in the functioning of the economy (Johansen, 1959; Naggar, 1977). Afterward, during the early decades of the twentieth century (1920-30), Prof. J.M. Keynes emphasized that the government has an essential function to play in the economy's financial health. He accentuates that; government interventions are highly important for the smooth and hassle-free working of any of the economic systems. Thereafter during post World War II (WWII), government spending showed an increasing trend globally, and consequently, public finance became a central point by which existing governments can achieve economic and social well-being (Prest, 1959; Helms, 1985). Since then, the study of public finances has developed appreciation among economic researchers. The performance of government spending initiatives is generally evaluated by the increase in national output over time, which is measured by the Gross Domestic Product (GDP). It is defined as the total monetary value of final products and services produced inside a country during a given time period, which is usually a year. Subsequently, per capita GDP becomes an essential statistic for measuring growth per person (Lenutha, 2005; Costanza et al., 2009; Afonso & Furceri, 2010; Gangopadhyay & Chatterji, 2016; Verma & Srivastava, 2020).

However, in these latter decades of the twentieth century, economists started arguing that gross domestic product (GDP) is only prioritized a growth-oriented perspective of economic well-being because it only measures fiscal transactions related to the manufacturing of goods and services within the country. As a result, it simply provides a partial analysis of the system in which the human economy operates. Therefore, there was a high desire for other modified dimensions or new insights that will provide a vast outlook of economic and human well-being (Brennan and Buchanan 1980; Hasan, and Tucci, 2010; Shoven and Slavov, 2014; Cuesta et al., 2020; Gangopadhyay et al, 2021).

In 1990, a broader paradigm evolved that upgraded the main objective from economic growth to human wellbeing i.e. the establishment of the Human Development Index. Within this scenario, each country seeks to improve human wellbeing (Lenutha, 2005). At present, nations and sub-nations started working on a greater understanding of human development since they need to provide a much better quality of life for their citizens in

order to achieve sustainable development (Rains, et al., 2000; Galasso and Profeta, 2002; Rahman & Gangopadhyay, 2011). The Human Development Index (HDI) is a statistical tool used to measure a country's overall achievement in its social and economic dimensions. The social and economic dimensions of a country are based on the health of people, their level of educational attainment and their standard of living. Human development is both qualitative as well as a qualitative phenomenon (Gangopadhyay et al., 2014; Hopkins, 1991; Stanton 2007 and Anand, 2018).

In this context, we are interested to examine the relationship between government spending (GS), economic growth (EG), and human development (HD). The present study attempts to investigate all three dimensions (GS, EG, and HD) altogether; which generally were not been studied collectively ever before for state-wise analysis. Considering these issues, we are mainly interested in knowing whether the northeastern states' growth and public welfare are related or not? As northeastern region states (NER) have a large area of lush farmland and enormous untapped human capital, with the potential to be wealthy region. Despite its advantages, the NER is classified as one of India's backward regions and all these states have been categorized as special category states of India. Therefore, we want to explore that does government spending ensures human development directly, or is it that economic growth plays a mediating role between government spending and human development. In the present study, we are addressing the research question especially for northeastern (Assam, Arunachal Pradesh, Mizoram, Meghalaya, Nagaland, Tripura, Manipur and Sikkim) sub nations of India.

The rest of the paper is organized as follows. Section 2 presents a review of the literature on the relationship between government spending, economic growth, and human development. Section 3 describes the research methodology used, model specification and variables identified for the study. Section 4 analyzes the empirical results of the study and finally, section 5 presents the conclusion and policy implications of the study.

## **Review of Literature**

In the early 20<sup>th</sup> century during the great depression (i.e. 1929), the famous economist J.M. Keynes emphasized that government interventions are highly important for the smooth and hassle-free working of any of the economic systems. Afterward, Keynesian economics (1936) becomes popular, as his ideas were found much successful at large helped to coup up with the great depression. Then in mid 20<sup>th</sup> century (i.e. 1939-1945) post World War II (WWII), another tough circumstance arose in front of world economies; where capital was extremely required by the most affected economies for financing the reconstruction process along with the encouragement of sustainable economic growth. Therefore government expenditure and its incremental trends were being noticed across the globe (Hsieh and Lai 1994; Piketty and Saez, 2014). A significant amount of studies agreed that there is a link between government expenditure and economic growth and that this influence extends via government spending to economic growth. The Keynesians, a school of thought, explained that expansionary fiscal policy will initiate the money supply in the economy, boosting aggregate demand and thereby increasing production and economic growth (Domar,

1957; Coddington, 1976; Barro,1990; Barro and Martin, 1992; Ghali,1998; Loizides and Vamvoukas, 2005; Narayan, 2012; Rao, 2018).

These Fiscal problems seriously hamper economic growth in developing countries. It was strongly realized that government spending as the input that has an essential task to achieve high economic growth in the country (Dalton, 1959; Rao, 1964; Naggar, 1977). In this line, the study done by Ram (1986), where cross-section time-series data (1960-1980) was taken into consideration and the study concluded that government size has a positive association between economic performance and growth. Thereafter, another endogenous growth model was given by Barro in 1990 where 98 countries were taken into account (1960-1985), which provided a theoretical understanding of the relationship between public expenditure and economic growth. He debated that the increase in public spending can affect economic growth in either of the ways i.e. positively or negatively. Finally, he concluded that the expenditure should be productive for the attainment of economic growth. In another study done by Hsieh and Lai in the year 1994 for G-7 countries, suggested that the relationship between government spending and growth can vary significantly across time as well as across the major industrialized countries. The results also highlighted that there was no consistent positive association between government spending and per capita GDP. Thereafter, the study done by Ergun & Tuck in the year 2006, with Time series data of Five southeast Asian countries found that there exists a causal effect of government expenditure on national income only in the case of the Philippines and not for the other nations under study i.e. for Indonesia, Malaysia, Singapore, and Thailand. The study by Acemoglu in 2012 and Yamaguchi in the year 2014 studied the indication that public spending culminates in sustainable economic growth and the results has been found positive but inconsistent throughout the studies. Later, Mohapatra and Giri in the year 2016 investigated the role of public expenditure on economic growth in India; the data was taken from 1980-2013. They found a significant positive long-term impact of public expenditure on economic growth.

Over time the objective of government spending is shifted to the betterment of human beings to mere economic growth. The First international Human Development report was published in 1990 by United Nation Development Program (UNDP) concluded that citizens are the real wealth of a nation. The Report treats human beings as primary inputs in the production process. The report strongly recommends the restructuring of budgetary expenditures for creating a worldwide economic and financial environment conducive to human development. Subsequently, the Anand and Ravallion in 1993 and later by Beharman (1993) & (1996); Ramirez et al, 2000; Mazumdar in the year 2001 furthermore by Chakraborty in the year 2003 and then Wilhelm & Fiestas in the year 2005 analyzed that public expenditure on human development is the key policy tool for the government to pass on the benefits of economic growth to the economically deprived segments of the society and improve socioeconomic performance. The countries have to emphasize on the improvement in social indicators of development that are directly related to human well-being without hindering the economic growth of the country. Then in the year 2007, a different attempt was made by Mehrotra to identify the important determinants of

human development profile for the SAARC countries considering the enormous problems confronting the countries of the region. He also highlighted that the countries might find it difficult to achieve United Nations Millennium Development Goals (MDG)a. Thereafter the study done by Balarajanetal in the year 2011, explained that in a young developing nation, like India, the government's role in providing and financing social and economic services assumes greater importance from the perspective of social welfare as well as ensuring equity. Since public financing has to be met out of scarce public resources, the allocation priorities and efficiency in spending become all the more important. In another study by Asghar, Hussain et al., in 2012 and later by Chotia & Raoin the year 2017 explained that public spending has a positive influence on economic growth and human development through infrastructural provisions and social services. The outcome revealed that public investment should always be regarded as one of the most significant factors in terms of achieving economic growth and human development. Thereafter, the potential linkage was also studied by Lenuta in the year 2015 and he suggested that government expenditure could be a linking bridge between the nation's income and Human Development. Afterward, Saksena and Deb in the year 2016 explored that the main intention of development is increasingly being recognized as human development instead of economic growth alone. Therefore, the concern of human development in the present is to attain sustainable human development which is the foremost objective of human development (UNDP, 2000; Anand & Sen, 2000). The recent studies done by Ogboru et al., in 2018 and Omodero & Dandago in the year 2019 coined that government expenditure is the costs incurred by the government in executing its function especially in the area of providing public goods and services which can further promote economic growth and then human development.

In present times, talking about India the regional pattern of growth provides an estimate of the quality of public policies and their impact on macroeconomic welfare. The various facets of the growth experience of States in India are critical for developing an understanding of the growth pattern. The growth performance in the states is often the outcome of institutional and non-economic factors interacting with the initial conditions which encompass various aspects of human capital / human development. However, the situations on the development platform may differ from region to region but public issues in each revolve around the same fundamental matters (economic welfare, equity, and social justice). Moreover, three issues were being raised in the context of India and Indian regional development, viz., fiscal, infrastructure, and human resources development (Bajpai and Sachs, 1999; Chaudhuri, 2000; Aahluwalia, 2000; Gordon, R. H., 2010; Mkandawire, 2011& 2016; Murugan, 2018; Panda & Sahay, 2020; Gangopadhyay et al., 2021).

The purpose of this paper is to shed light on the association between government spending, economic growth, and human development. Although, previous studies contributed significantly, however, they do not discuss much about the relationship between government spending, economic growth and human development collectively. From the literature, it is also evident that as compared to other nations, less work has been done for India especially focusing on Human Development. Our work is different from the existing literature, as here an attempt has been made to investigate the mediation intervention of economic growth on government expenditures and human development for

northeastern substations of India. The analysis can provide a significant contribution to the existing literature.

## Research Methodology

The present study has used data for the period starting from the year 1999-2000 to 2018-2019 for its eight northeastern region sub nations/states (NER) viz Assam, Arunachal Pradesh, Mizoram, Meghalaya, Nagaland, Tripura, Manipur and Sikkim. The period is of great significance since it was the beginning of the new economic policy and the evolution of the human development index too (Upadhyay, 1994). We took NER of India as our study area because the region comprises a maximum number of special category states among all the six regions of India. This particular region is the most untouched/ isolated not only in terms of physical topologies but also in economic growth and human development as well.

Next, the table below shows the three variables used, along with their computation and their data sources as well.

**Table 1 Variable Description and Data Sources**

Variable	Computation	Data Source
Government Spending (GS)	Total public expenditure (total of Capital Expenditure and Revenue Expenditure)	Various volumes of Indian public finance statistics published by the Reserve Bank of India (RBI)
Economic Growth (EG)	Net state domestic product (NSDP) per capita	Ministry of Statistics and program implementation (MOSPI)
Human Development (HD)	Human Development Index (HDI)	Global Data Lab (GDL)

*Source: Authors compilation.*

*Note: I. Capital expenditure is the expenditure made by the government, which is spent on the acquisition of assets like land, buildings, machinery, equipment, as well as investment in shares.*

*II. Revenue Expenditure is that part of government expenditure that does not result in the creation of assets. Payment of salaries, wages, pensions, subsidies and interest fall in this category as revenue expenditure examples. The revenue expenses are incurred by the government for its operational needs.*

The study hypothesized the mediation effect of EG between GS and HD. For the study, lag has been taken at levels 0, 1 and 2 for HD, EG and GS respectively. This is done so as to evaluate the impact public expenditure (done now) would have on economic growth after one year and on human development after two years. The Akaike Information Criterion (AIC) and Schwarz Information Criterion (SIC) have been calculated for the lag selections. The values were found to be minimum at 0,1and 2 levels for HD, EG and GS, therefore this lag specification has been incorporated for the analysis. Here we consider government spending as a precondition to ensure economic growth and then human development. To study the relationship, the data for economic growth and government spending was normalized by transforming them into their natural logarithm. The segmental approach has been adopted to form the hypothesis (Rungtusanatham et al., 2014).

The hypothesis to be tested is given as follows:

H1: Government spending has a positive effect on economic growth.

H2: Economic growth has a positive effect on human development.

H3: Government spending has an indirect effect on human development through economic growth.

The analysis was carried out in IBM SPSS 24.0, using the PROCESS macro model 4. This model was developed by Preacher and Hayes (Hagtvedt and Patrick, 2008; Hayes, 2013). The mediation analysis is a statistical method that tells how an independent variable (in this case GS) affects the dependent variable (i.e. HD in the present case) through an intermediate variable called the mediator (i.e. EG). The effect of GS on HD is referred to as the total effect (TE) and this is represented by “path c” shown in Figure 1 (a). The effect is further portioned into: direct effect and indirect effect. The direct effect (DE) is the effect of GS on HD and is shown in Figure 1(b), represented by “path c’”. The other is the indirect effect (IE) of GS on HD coming through EG. In Figure 1(b), it is represented by “path a” & “path b” measuring the effect of GS on EG and EG on HD respectively. The indirect effect is calculated by multiplying “path a” by “path b”.

Figure 1 (a) Effect of GS on HD without considering mediation

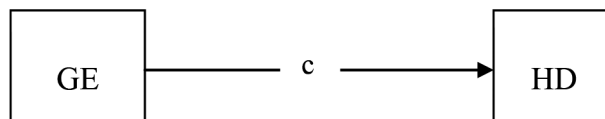


Figure 1(a). Conceptual representations of mediation model with the selected variables.

Figure 1 (b) Effect of GS on HD with considering mediation EG

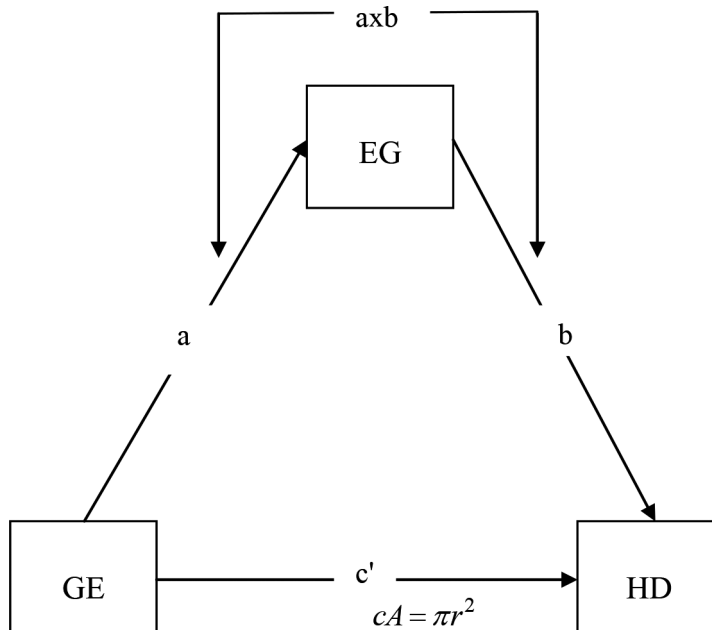


Figure 1(b) Conceptual representations of mediation model with the selected variables (Indirect effect and Direct Effect).

The path diagram of the simple mediation analysis is also represented by the following linear equations:

The equation (1) shows the total effect:

$$c = c' + ab \quad (1)$$

This effect (total effect) is measured by equation (1) and is equal to direct effect i.e. “path  $c'$ ” plus indirect effect i.e. “path  $a * \text{path } b$ ”. In the above equation, if the value of path  $c'$  is closer to zero then the total effect of GS on HD is said to be coming through the intervention of EG .i.e. EG is then deemed to be a mediator between GS and HD.

$$EG = i_M + aGS + e_1 \quad (2)$$

The above equation represents Path ‘a’. This shows the effect of GS on EG and it is being measured through coefficient ‘a’.

$$HD = i_Y + c'GS + bEG + e_2 \quad (3)$$

The equation (3) represents the direct effect i.e. the effect of GS on HD when EG is kept constant. It is measured through the coefficient  $c'$  in the above equation; giving us the value of path  $c'$  in this equation the effect of EG on HD is also computed and is measured by coefficient b, giving us the value of path ‘b’.

In these equations EG is economic growth, GS is public expenditure and HD is human development. Here,  $i_M$  &  $i_Y$  are the constants and  $e_1$  &  $e_2$  are the error terms used in equations 2 & 3 respectively.

The results were interpreted through the typology of mediation and non-mediation given by Zhao, Lynch & Chen, (2010) in their work “*Reconsidering Baron and Kenny: Myths and truths about mediation analysis.*”

## Results and Data Analysis

Before providing the findings of our analysis, we must first categorize the patterns that are associated with mediation and non-mediation effects:

1. Partial mediation: It occurs when indirect effect ( $axb$ ) and direct effect ( $c$ ) both are significant and are pointing in the same direction.
2. Direct-only (non-mediation): It occurs when direct effect ( $c$ ) is significant, but the indirect effect ( $axb$ ) is non-significant (does not exist).
3. No-effect (non-mediation): It occurs when neither direct effect ( $c$ ) nor indirect effect ( $axb$ ) exists (both are non-significant).

The above-mentioned types of mediation and non-mediation were being conceptualized by Zhao et al. (2010); it provides insight to express that what really matters in mediation analysis.



As per the above-mentioned criterion Zhao et al. (2010), step one is to check the significance of the indirect effect (i.e. path  $axb$ ), if it is found to be statistically significant then the second step is to check the significance of the direct effect (i.e. path  $c$ ). However, if the direct effect is found to be statistically significant, thereafter we compute the product of the three coefficients  $axbxc$  to check whether the sign of the product is positive or negative and if the sign is positive, it means that both the direct as well as indirect paths are pointing in the same direction. In this case, we say that a Partial Mediation exists between the dependent and independent variables.

Next, if we go back to step one where the indirect effect is found to be non-significant (i.e. product  $axb$  is statistically not significant) and step ahead to the second stride, where we are checking the significance of direct effect (i.e. path  $c$ ); if path  $c$  is found to be statistically significant then we have a direct effect only and we say that no mediation exists between the variables.

The results (Table 2), revealed that for two NER states viz Meghalaya (MG), Sikkim (SK) have partial mediation i.e. there is a significant positive effect of government spending on economic growth and a significant positive effect of economic growth on human development as well. Moreover, government spending has a significant indirect effect on human development via economic growth. Thus, for these states, Meghalaya (MG), Sikkim (SK), all the three null hypotheses are rejected here, and we can say that government spending is affecting human development through the mediating interventions of economic growth and directly as well. Further, the results for the state Assam (AS) is showing no effects, meaning that the effect is not coming via direct effects nor through indirect effects. Therefore, the null hypotheses 1 & 2 are rejected whereas, we fail to reject the null hypothesis 3 for Assam. Followed by five more states namely Arunachal Pradesh (AR), Manipur (MN), Mizoram (MZ), Nagaland (NG) and Tripura (TR), where direct only non-mediation is found. Thus, the null hypothesis 1 is accepted here and we fail to reject the null hypotheses 2 & 3; meaning that human development is directly achieved through government spending and no mediating effects of economic growth.

## **Discussion**

Now, for further discussion, we have selected the northeastern region i.e. (NER) and this distribution has been done as per the State Reorganization Act, 1956. North-Eastern Region comprises Assam, Arunachal Pradesh, Mizoram, Meghalaya, Nagaland, Tripura, Manipur and Sikkim. For North Eastern Region (NER), the results showed that a direct only non-mediation exists between public expenditure and human development for the majority of the states including Assam where no effect exists (except for the states Meghalaya and Sikkim where partial mediation is found). It could be said that for the majority of states, human development is directly achieved through government expenditure and interventions of economic growth were not found so far, whereas no effect is traced out for the state Assam.

The government of India is spending a lot on the development of the region (both for the economy as well as for humans). On viewing the demography of the region, it was found that the region is rich in manpower resources with a literacy rate that stands much above the

**Table 2:** The table below shows the various values of different paths with their concluding results given are for northeastern region (NER) states of India:

Sr. No.	NER States	GS to EG path a			GS to HD path c			GS to HD path c'			Indirect effect (axb)	Significance of axb	axbxc	Mediation Results
		Constant coefficient	GS a coefficient	Constant coefficient	DE GS c Coefficient	EG b coefficient	Constant coefficient	TE GS c' coefficient						
1.	Arunachal Pradesh (AR)	9.7155 ***	0.3609 ***	0.4581	0.0783 ***	-0.0122	0.3394 ***	0.0738 ***	-0.0044	Non-Significant	-0.0003	Direct Only		
2.	Assam (AS)	9.2628 ***	0.2437 ***	-0.6391 *	0.017	0.1051 ***	0.334 ***	0.0426 ***	0.0256	Non-Significant	0.0004	No Effect		
3.	Manipur (MN)	9.7864 ***	0.2104 ***	0.8216	0.0827 ***	-0.0447	0.3843 ***	0.0733 ***	-0.0094	Non-Significant	-0.0008	Direct Only		
4.	Meghalaya (MG)	10.1051 ***	0.2024 ***	-1.5579 ***	0.0379 ***	0.1865 ***	0.3263 ***	0.0757 ***	0.0377	Significant	0.0014	Partial Mediation		
5.	Mizoram (MZ)	9.4822 ***	0.4556 ***	0.9412 **	0.0846 ***	-0.0511	0.4565 ***	0.0613 ***	-0.0233	Non-Significant	-0.0020	Direct Only		
6.	Nagaland (NG)	10.2836 ***	0.187 **	-0.1353	0.08 ***	0.0426	0.3026 ***	0.0876 ***	0.0080	Non-Significant	0.0006	Direct Only		
7.	Sikkim (SK)	8.3038 ***	0.9616 ***	-0.1602 **	0.019 **	0.0641 ***	0.3718 ***	0.0807 ***	0.0616	Significant	0.0012	Partial Mediation		
8.	Tripura (TR)	9.8185 ***	0.2819 ***	0.2398	0.0626 ***	0.0112	0.3493 ***	0.0657 ***	0.0032	Non-Significant	0.0002	Direct Only		

Source: Authors compilation (Here \*, \*\*, and \*\*\* represents significance level at 10%, 5% and 1% respectively)

national average literacy rate. But, this region is characterized by rural living populations in most of the areas (excluding Assam). So, to smooth up the progress of the human capital of this region, the Government of India has been taking various steps. One of them is the special central assistance provided to the maximum states in the NER by the Government under the program such as Border Area Development Program (BADP) (since 1993-94); where it works with the State Governments as part of a comprehensive approach to Border Management. BADP is designed to take care of the special developmental needs of the people living in remote and inaccessible areas situated near the international border and to saturate the border areas with the essential infrastructure through convergence of BADP and Local schemes participatory approach. Another one is the Ministry of Development of North Eastern Region (DONER), established in the year 2001; it plays a role of a catalyst between the Central Ministries and the State Governments of the NER for the economic development which includes the removal of infrastructural bottlenecks, providing the provision of basic minimum services, creating an environment for private investment and removal of impediments for lasting peace and security. This is showing a pathway through its various initiatives to accelerate socio-economic development so that the region may enjoy growth parity with the rest of the country (Hussain et al., 2015).

A third remarkable program that was started in 2015 is the Hill Area Development Program (HADP). Its main objectives are eco-preservation and eco-restoration, with emphasis on the sustainable use of biodiversity (keeping in view the needs and aspirations of the locals). Further, it also aims to employ local people in small and medium scale enterprises. Therefore, in these ways, the government is spending a lot directly to promote the human development of this region and the effects are visible in the results also. Besides these efforts, the government has also been launching various schemes relating mainly to the development of the power sector, border trade, horticulture, rural infrastructure, road and air links, medical education and industrial training institutes. Some of them have already been executed by the central government likewise the Self Help Groups (SHGs) and skill training program (started in 1986-87) for the reduction of unemployment (Hussain et al., 2014; Mythili, 2020), and the North East Rural Livelihood Project (NERLP) in the year 2012, which has changed the rural unemployment scenario.

Even though the government is spending so much, NER is still categorized as one of the backward regions of India as it has low per-capita income, it lacks in attracting private investment, has low capital formation, has inadequate infrastructure facilities and is geographically isolated. Even, if we see the good governance index (GGI), it showed poor rank all over the NER. As a result, the ease of doing business (EODB) is found less in this very region and so the companies are not interested in establishing their businesses here. Further, if we look at the per capita GDP of this region, it was found to be low even though the region contributes about 50% of India's annual tea production (Lashkar and Thappa, 2018) and accounts for one-third of the country's total hydropower potential. It also has immense natural resources, accounting for 34% of the country's water resources and another unique feature of this region is that it has high rainfall, which ranges between 3,000mm to 12,000mm (Bharti, 2009; Census of India 2011; RBI, various handbooks of

statistics on Indian states, 2017, 2016 and 2015; Mythili, 2020). Adding to this is the vast potential that this region has in terms of tourism, small-scale industries, and hydropower energy which has not been touched so far for the development of the very region.

Thus, from the above discussion, it could be said that the region has not been lacking in policy attention and program. But, still, it shows that human development of this area is better as compared to economic growth (identical to our results). So, all these meaningful potentials should be further explored by the government policymakers to boost up the economic growth in the region.

## **Conclusion**

Sustainable economic growth is one of the ultimate aims of every economic system across the world, and it contributes to better human development. At the moment, countries, whether developed or developing, aspire to achieve their primary goal, which is human development. To encourage steady and sustained growth, the government employs its spending and taxing capabilities. This can help to accelerate the economy's growth pace. Economic growth is a critical and essential condition for human development that emphasizes human resources first. The fundamental objective of human development is to raise citizens' living conditions. In this study, we found that government spending was significantly associated with human development via economic growth for the northwestern region (NER) states namely Meghalaya (MG), Sikkim (SK), whereas government expenditure was directly related to human development for the states of Arunachal Pradesh (AR), Manipur (MN), Mizoram (MZ), Nagaland (NG) and Tripura (TR). Our study suggested that the grass-root implementation should also be taken into consideration exclusively. These regions (Arunachal Pradesh (AR), Manipur (MN), Mizoram (MZ), Nagaland (NG) and Tripura (TR)) have to focus primarily on economic growth since a direct effect was traced here; they have to target economic growth policies (industrial setup, skill development & employment generation). Furthermore, the results indicate that, in order to boost human development, the government should prioritize improvements in economic growth, which in turn ensures an increase in human well-being. Additionally, the study concluded that human development concerns should be delayed until a country has reached a particular level of economic growth (Cuesta & Leone, 2020).

The findings of the research point towards several potential research directions in the economics and finance literature. Future potential studies should consider the effects of government spending on economic growth and human development in other countries and on substations. Another possible avenue for future research would be to investigate how government spending in areas such as health, education, and housing might contribute to increased economic growth and, consequently, human development. The administration of public finances, on the other hand, becomes a crucial aspect of the study. This is especially true in today's economic context, where governments worldwide are accumulating unprecedented levels of debt and associated financial risks and liabilities.

## References

- Ahluwalia, M. S. (2000).** Economic performance of states in post-reforms period. *Economic and Political weekly*, 1637-164.
- Afonso, A & Furceri, D (2010).** Government size, composition, volatility and economic growth, *European Journal of Political Economy*, 26, pp 517-532.
- Ahmad, U. G., & Loganathan, N. (2015).** The causal nexus between government expenditure and economic growth in Nigeria: evidence from a bootstrap rolling window approach. *The American Journal of Innovative Research and Applied Sciences*, 2(1), 16-24.
- Anand, S & Sen, A (2000).** Human Development and Economic Stability, *Oxford University Press*, Vol. 28 issue 12, 2029-2049.
- Anand, S., & Sen, A. (1994).** Sustainable human development: concepts and priorities. *UNDP Human Development Report Office*.
- Anand, S.** 2018. Recasting Human development Measure, *UNDP Human Development Report 2018*, Discussion Paper.
- Azeem Qureshi, M. (2009).** Human development, public expenditure and economic growth: a system dynamics approach, *International Journal of Social Economics*, Vol. 36 No. 1/2, pp. 93-104.
- Barro, Robert J. (1990).** Government spending in a simple model of endogenous growth, *A Journal of Political Economy*, 98(S5): 103-125.
- Barro, R. J. (1990)** Government spending in a simple model of endogenous growth, *Journal of political economy*, vol. 98, pp. S103-S125.
- Barro, R. J. and Sala-i-Martin, X. (1992).** Convergence, *Journal of political economy*, vol. 100, pp. 223-251.
- Behrman, J. R. (1993).** The economic rationale for investing in nutrition in developing countries. *World Development*, 21(11), 1749-1771
- Bhatia, H. (2018).** Public Finance, *Vikas Publication House Pvt Ltd*, 29th edition p.219.
- Brennan, G., & Buchanan, J. M.** 1980. *The power to tax: Analytic foundations of a fiscal constitution*. Cambridge University Press.
- Castillo, et al., (2000).** Long term outcome of infective endocarditis in patients who were not drug addicts: a 10 year study. *Heart*, 83(5), 525-530
- Chakraborty, L. (2003).** Public Expenditure and Human Development: An empirical investigation. Paper Presented at Wider International Conference on *Inequality, Poverty and Human Well-Being*, Helsinki, 30-31 May.
- Chimobi, O.P, (2009).** Government expenditure and national income: A causality test for Nigeria, *European journal of economic and political studies*, (2) 2009.
- Coddington, A. (1976).** Keynesian economics: the search for first principles, *Journal of Economic literature*, vol. 14, pp. 1258-1273.
- Costanza, R., Hart, M., Talberth, J., & Posner, S. (2009).** Beyond GDP: The need for new measures of progress. *The pardee papers*.
- Cuesta, J., & Leone, M. (2020).** Humanitarian Crises and Adolescent Well-Being: Knowledge, Gaps, and Prospects. *Journal of Economic Surveys*, 34(1), 3-34.
- Cuesta, J., Negre, M., Revenga, A., & Silva-Jauregui, C. (2020).** Is it really possible for countries to simultaneously grow and reduce poverty and inequality? Going beyond global narratives. *Oxford Development Studies*, 48(3), 256-270.
- Domar, E.D. (1957).** Essays in the Theory of Economic Growth, *Oxford University Press*, Edition 2.
- Edward Hsieh & Kon S. Lai (1994).** Government spending and economic growth: the G-7 experience, *Applied Economics*, 26:5, 535-542.

- Ergun, D. & Tuck (2006).** Government expenditure and national income: Causality test of five South East Asian countries, *International Journal of Economics and Research* 5 (10):49-58.
- Gangopadhyay, P., Jain, A. & Suwandar, A. (2023).** What drives urbanisation in Cambodia? *Sustainability*, 12 (24), 10253.
- Gangopadhyay, P., Suwandar, A., & Bakry, W. (2021).** On the Impacts of Globalisation on Public Employment and Human Security in India: A Long-Run Analysis. In *New Frontiers in Conflict Management and Peace Economics: With a Focus on Human Security*. Emerald Publishing Limited.
- Gangopadhyay, P. & Chatterji, M. (2016).** Economic Globalisation in Asia, Routledge: New York.
- Gangopadhyay, P., Rahman, M.A. & Bhattacharya, B.N. (2014).** Are there any roles for social conformity and deviance in poverty? Insights from a field study on working poverty and educational investment in Bangladesh, *Journal of the Asia Pacific Economy*, Taylor & Francis Journals, vol. 19(4), pages 539-557, October.
- Gangopadhyay, P. (2007).** Competitive tax evasion and transfer prices. *International Game Theory Review*, 9(02), 347-351.
- Ghali, K. H. (1998).** Public investment and private capital formation in a vector error-correction model of growth, *Applied Economics*, vol. 30, pp. 837-844.
- GÜNALP, B., & Dincer, O. (2010).** The optimal government size in transition countries.
- Hasan, I., & Tucci, C. L. (2010).** The innovation–economic growth nexus: Global evidence. *Research policy*, 39(10), 1264-1276.
- Haq, M. (1995).** The Advent of the Human Development Report, Chapter 3 from Reflections on Human Development, *Oxford University Press*.
- Helms, L. J. (1985).** The Effect of State and Local Taxes on Economic Growth: A Time Series–Cross Section Approach. *The Review of Economics and Statistics*, 574-582.
- Hsieh, E., & Lai, K. S. (1994).** Government spending and economic growth: the G-7 experience. *Applied Economics*, 26(5), 535-542.
- Hayes, A. F. (2013).** Introduction to mediation, moderation, and conditional process analysis, New York: *The Guilford Press*.
- 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.
- 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.
- Husain, Z., Mukerjee, D., & Dutta, M. (2014).** Self-help groups and empowerment of women: self selection, or actual benefits?. *Journal of International Development*, 26(4), 422-437.
- Inman, R. P. (1987).** Markets, governments, and the “new” political economy. In *Handbook of public economics* (Vol. 2, pp. 647-777). Elsevier.
- Johansen, L. (1959).** Substitution versus fixed production coefficients in the theory of economic growth: a synthesis. *Econometrica: Journal of the Econometric Society*, 157-176.
- Karras, G. (1997).** On the optimal government size in Europe: Theory and empirical evidence. *The Manchester School*, 65(3), 280-294.
- Lenuta, M. (2015).** Analyzing the composition of HDI in European countries, studies in business and economics, no. 10(3)/2015 – 119.
- Loizides, J. and Vamvoukas, G. (2005).** Government expenditure and economic growth: Evidence from trivariate causality testing, *Journal of Applied Economics*, vol. 8, pp. 125-152.
- Maria, M & Kennedy, J (2012).** Public Finance, *PHI Learning Pvt. Ltd.* p.3.
- Mays, G. P., & Smith, S. A. (2011).** Evidence links increases in public health spending to declines in preventable deaths. *Health Affairs*, 30(8), 1585-1593.

- Mazumdar, J. (2001).** Imported machinery and growth in LDCs. *Journal of development Economics*, 65(1), 209-224.
- Mehrotra, S., Mehrotra, S. K., & Delamonica, E. (2007).** *Eliminating human poverty: macroeconomic and social policies for equitable growth* (Vol. 1, No. 84277-84774). zed Books.
- Mohapatra, G., Giri, A. K., & Sehrawat, M. (2016).** Foreign aid, macroeconomic policies and economic growth nexus in India: An ARDL bounds testing approach. *Theoretical & Applied Economics*, 23(4).
- Murugan, K. (2018).** The Relationship Between Public Expenditure and Economic Growth in South India: An Econometric Analysis. *Economic Policy & Research*, 68.
- Mythili, N. (2020).** Regional Diversity, School Leadership and Quality of Education in North-Eastern States. In *Universal Secondary Education in India* (pp. 151-204). Springer, Singapore.
- Naggar, T. 1977.** Adam Smith's Laissez Faire. *The American Economist*, 21(2), 35–39.
- Narayan, S., Rath, B. N., and Narayan, P. K. (2012).** Evidence of Wagner's law from Indian states. *Economic Modelling*, vol. 29, pp. 1548-1557.
- Ogboru, I., Abdulmalik, F. A., & Park, I. O. (2018).** Government Expenditure on Agriculture and Its Impact on Unemployment Reduction in Nigeria: 1999–2015.
- Omodero, C. O., & Iyoha, F. O. (2021).** Financial development and tax revenue in evolving markets:
- Panda, M. K., & Sahay, S. (2020).** *Determinants of Economic Growth across States in India*. Institute of Economic Growth, University Enclave, University of Delhi.
- Preacher, K. J., & Hayes, A. F. (2004).** SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior research methods, instruments, & computers*, 36(4), 717-731.
- Piketty, V and Saez, E. (2014).** Inequality in the long run, *Science*, vol. 344, pp. 838-843.
- Rahman, M.A. & Gangopadhyay, P. (2011).** Working poverty and costly conflicts: Some worrying signs from a field study in Bangladesh, *Indian Journal of Asian Affairs*, 35-48.
- Rains, G Stewart, F & Ramirez, A. (2000).** Economic growth and human development, *world development*, Vol. 28, No. 2, pp197-219.
- Rains, G. & Stewart, F. (2005).** Dynamic Links between the Economy and Human Development, *Social Affairs*, DESA Working Paper No. 8, ST/ESA/2005/DWP/8.
- Ram, R. (1986).** Government Size and Economic Growth: A New Framework and Some Evidence from Cross-Section and Time-Series Data, *American*, 1986, vol. 76, issue 1, 191-203.
- Rungtusanatham, M., Miller, J. W., & Boyer, K. K. 2014.** Theorizing, testing, and concluding for mediation in SCM research: tutorial and procedural recommendations. *Journal of Operations Management*, 32(3), 99-113.
- Saksena, S.B.L. & Deb, Moumita (2016).** Economic Growth and Human Development in Indian States after two decades of Economic Reforms, *MPRA Paper No. 71128*,
- Sen, A (1999).** The ends and means of development, Chapter 2 from “Development as Freedom”, *Oxford University Press*.
- Shoven, J. B., & Slavov, S. N. (2014).** Does it pay to delay social security?. *Journal of Pension Economics & Finance*, 13(2), 121-144.
- Sobel, M. E. (2008).** Identification of causal parameters in randomized studies with mediating variables, *J. Educ. Behav. Stat.* 33, 230–251.
- Stanton, E.A. (2007).** The Human Development Index: A History, Political Economy Research Institute, *University of Massachusetts Amherst*, Working Paper Series.
- UNDP: Human Development Report**, Volumes for the years 1990, 1991, 1992, 1994, 1995, 1996, 1998, 1999, 2001, 2002, 2004 and 2006.
- UNDP (1999).** United Nations in the Islamic Republic of Iran and Plan and Budget Organization of the Islamic Republic of Iran, *Human Development Report of the Islamic Republic of Iran*, No.185.

- UNDP (2013).** Human Development Report, The Rise of the South: Human Progress in a Diverse World, Explanatory note on 2013 HDR Composite Indices, IRAN (Islamic Republic of), *Human Development Values and Rank Changes in the 2013 Human Development Report*.
- Upadyay, M. (1994).** The role of human capital in economic development evidence from aggregate cross-country data, *Journal of Monetary Economics*, 1994, Vol. 34, issue 2, 143-173.
- Verma, B., & Srivastava, D. A. (2020).** A Comparative Analysis of Effect of Different Measures of Globalization on Economic Development, *International Journal of Development and Conflict* 10(2020) 246–264
- Wilhelm, V., and Fiestas, I. (2005).** Exploring the Link Between Public Spending and Poverty Reduction Lessons from the 90s. Washington DC: *World Bank Institute*.
- Zhao, X., Lynch Jr, J. G., & Chen, Q. (2010).** Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of consumer research*, 37(2), 197-206.