

# **International Journal of Research Publication and Reviews**

Journal homepage: www.ijrpr.com ISSN 2582-7421

# **Income Inequality and Wealth Growth in Northeast India**

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### ABSTRACT

The relationship between income inequality and wealth growth in the northeastern states of India is a pertinent phenomenon. It comprises eight states: Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, and Sikkim. These eight northeastern states have historically dawdled than other parts of India regarding economic improvement. Despite various government initiatives, disparities in income and resources continue to exist. The region's Gross State Domestic Product (GSDP) [a measure of the total economic output of a state] has been below the national average for the long run. However, signs of development in the post-reform period indicate positive economic changes (Sarma, 2015). Despite these improvements, regional investment levels, poverty, and income disparities have not been resolved fully (Singh, 2018). The economic growth of northeastern states is typically steered by the tertiary sector, followed by the primary and manufacturing industries. This shift specifies a substituting economic structure within this region, with some states like Sikkim and Mizoram showing higher growth rates than the national average (Singh, 2018). The North East states face significant socio-economic challenges, with high levels of deprivation in basic amenities such as sanitation, electricity, and education. The Multi-dimensional Poverty Index (MPI) highlights significant inequality, with Assam and Meghalaya showing high poverty levels and inequality among the MPI poor (Konwar, 2015). There is a stark contrast in access to essential services like drinking water, sanitation, and electricity across the states. Urban areas have better access than rural areas, but the inequality in living conditions is more prominent (Konwar, 2015). The central and state governments have implemented various schemes to reduce regional disparities by allocating central funds for developing the northeastern states. However, the growth in Net State Domestic Product (NSDP) [a measure of the total economic output of a state after accounting for depreciation] and Gross State Domestic Product (GSDP) continues to procrastinate the national average. This urges the necessity for more targeted and effective policies. The urgency of this need cannot be overstated (Singh, 2018). Efforts to attract private investment and infrastructure improvement are ongoing, but challenges remain to enable the environment for sustainable development. The focus has been on balanced development and improving regional capabilities (Singh, 2018; Konwar, 2015).

Keywords: Wealth inequality, income inequality, social stratification, social inequality, Gini index, Northeast India

JEL Classification: C55, D31, E01, E21, O42

### Introduction

The economy of Northeast India is complex and convoluted, featuring its unique geographical, cultural, and socio-economic attributes. This region, comprising eight states, has historically faced challenges in achieving economic growth compared to the rest of India. However, it also holds significant potential due to its rich natural resources and strategic location. The economy of North-East India is primarily agrarian, with agriculture and allied activities forming the backbone of the region's economic structure. Despite this, the agricultural sector experienced lower economic growth than the industrial and service sectors from 1980 to 2019 (Rana, 2023). The region's economic growth is further hindered by a lack of large-scale industries, with oil and tea being notable exceptions. Small-scale industries, which are labor-intensive and use traditional technology, are more prevalent but face challenges in productivity (Hemanta, 2015). Industrialization in North-East India is crucial for economic development but remains underdeveloped despite the region's abundant natural resources, such as forests, coal, and crude oil. The region's economic growth is lagging, and regional planning is suggested to address these disparities and promote industrial growth (Banik & Shil, 2023). The lack of capital investment and bank credit, coupled with unstable law and order, further complicates industrial development and entrepreneurship in the region (Sangwan, 2016). Transportation bottlenecks in this region are a significant hindrance to economic growth. Improving infrastructure is crucial for boosting tourism and other economic activities, which can enhance the region's standard of living and reduce reliance on agriculture (Haolai, 2022; Haolai, 2022). Tourism is identified as a key sector with the potential to drive economic growth in North-East India. The region's rich biodiversity and cultural heritage offer opportunities for sustainable tourism development, which can lead to increased income and infrastructure development (Haolai, 2022; Haolai, 2022). Limited access to bank credit and capital investment is a significant barrier to industrial and entrepreneurial development. The unstable law and order situation and restrictive trade practices further discourage investment, impacting the region's economic progress (Sangwan, 2016). So, North-East India has significant potential for economic growth and wealth generation, which requires addressing infrastructural, financial, and human resource challenges. Strategic regional planning, improved connectivity, and investment in human capital are essential for unlocking the region's economic capabilities.

The wealth distribution trends in North East India have been accompanied by regional income inequality, and the region is lagging behind the national average in economic growth. However, there have been signs of improvement in the post-reform period. North East India has historically been a backward region in terms of economic development compared to other parts of the country, resulting in significant regional income inequality (Sarma, 2015). Although the average growth of the Gross State Domestic Product (GSDP) in North East India is below the national average, there has been some amelioration in economic growth rates in the post-reform period. This not only stipulates a potential reduction of the income gap over time but also raises the possibility of a more equal economy in the future, inspiring hope and optimism (Sarma, 2015). Since eight northeastern states have experienced different economic growth rates and income inequality levels, some states have progressed more rapidly than others, resulting in significant disparities in wealth distribution (Sarma, 2015). Socioeconomic conditions, regional economic disparities, and government policies define the association between income inequality and wealth growth in the northeastern Indian states. Different studies show that income inequality in India has fluctuated, with the top 1% of earners capturing a significant share of national income. This trend impacts the NER because national policies and economic conditions impact regional disparities. Inclusive growth and transparency in wealth and income statistics are desirable and essential to mitigate these inequalities (Chancel & Piketty, 2017).

## **SWOT Analysis of North East India**

North East India comprises eight North Indian States covering eight percent of India's land surface and 3.1 percent of India's population. It is the center stage of India's Act East Policy as this region is a doorway to South East Asia. This region has great potential to develop as a self-sustaining economic unit and is critical for the country's overall development. North East India has vast natural resources. The region has rich hydropower potential, coal, petroleum, natural gas, other minerals, forest wealth, horticulture, etc. As about 98 % of the region is covered by the international border, it has great potential for trade and collaboration. Again, the region has extensive potential for all types of tourism. Despite all these, the region is relatively backward. This might be due to a lack of proper developmental strategy and policy. To formulate an appropriate roadmap and plan for development, it is very necessary to analyze the strengths, weaknesses, opportunities, and threats (SWOT) of North East India (Bharali, 2020).

To harness the full potential of this region, significant investment and development initiatives will be required to upgrade the region's infrastructure (Physical and financial), education, and skill development. All these have to be done keeping in mind the need to preserve the rich bio-diversity and diverse ethnic culture of the region. To formulate realistic plans and policies for the region's all-round development, keeping in mind the region's resource potential, it is essential to analyze the Strengths, Weaknesses/Opportunities, and Threats (SWOT) of growth in this region.

#### Strength:

- The abundance of forest and mineral resources is an excellent strength for the region's development. The North Eastern Region is very rich in
  forest resources. About 64.2 percent of its total geographical area is covered by forest. Such a vast forest resource is a base for the region's
  forest-based economy. This region also has abundant mineral resources like crude petroleum, natural gas, limestone, dolomite, uranium, fire
  clay, kaoline, etc.
- 2. The North Eastern Region's rich water resource is another strength. Due to the favorable impact of the monsoon, the entire region is experiencing adequate rainfall. The Brahmaputra and Barak are two major rivers, each with 35 and 9 tributaries, respectively, each with a considerable catchment area. The rivers of the North Eastern Region are the storehouses of hydropower potential.
- The presence of numerous tea estates is a strength of this region's economy. The region's geographical conditions are very suitable for tea plantations, and the tea industry is an important source of capital formations.
- Presence of diverse ethnic tribal cultures with unique customs and traditions.
- 5. This region's rich bamboo reserves are a great strength for developing a bamboo-based economy and handicrafts.
- 6. This region's strength lies in natural tourism sites like Loktak Lake in Manipur, Majuli (the largest river island), National Parks, and sanctuaries like Kaziranga and Manas.
- 7. Relatively clean and pollution-free environment.

### Weaknesses:

- Lack of sound transportation and communication systems is a foremost weakness for the development of this region. Geographical isolation, rugged terrain, and lack of proper attention are factors behind this problem. Considering its need, the development of this region's railway and road transport facilities is minimal. Excluding Assam, the other North Eastern States have either no rail line or very insignificant rail lines in the rest of the country.
- Proneness to natural calamities is another weakness of this region. Northeastern states are among those few that are now and then visited by natural disasters such as floods, landslides, erosion, etc. Every year, floods and landslides cause massive damage to crops, cattle, houses, roads, and public properties in various NE states.
- Limited tourism infrastructure facilities are another weakness. Fewer accommodation facilities are of poor quality and are insufficient to cope with the demand.

4. The North Eastern Region's critical weakness is that it is landlocked. The region has no direct accessibility to the sea, which is a significant hurdle for developing trade in this region.

#### Opportunities:

- Tourism is one sector where the region has a comparative advantage. With nature's breathtaking scenic beauty, salubrious climatic conditions, remarkable diversity, rich art, and cultural heritage of the people, this region can become a hotspot of eco-tourism, rural tourism, and adventure tourism. Tourism involves many business activities, including hotels, restaurants, transport agencies, and other related activities. Hence, tourism can generate more employment in this region than any other activity.
- 2. As nearly 98 percent of the border of the NE region is covered by foreign countries, this region has an excellent opportunity for the development of border trade. The development of border trade would provide a chance to revive the locally manufactured units and serve as a transit corridor for the mainland's big industrial units to explore the vast Asian markets. This would also bring centrality and visibility to the otherwise peripheral North Eastern Region (Verghese, BG). With this vision, the Look East policy/Act East Policy was initiated.
- 3. There is an excellent opportunity to develop handloom and handicraft industries. Handloom and weaving are traditional skills acquired by the local community. Based on cane and bamboo reserves, there is an opportunity to develop cane and bamboo craft cottage industries, which can be an alternative source of employment and tourist attraction.

#### Threats:

- 1. Overusing and commercializing eco-sensitive zones could lead to resource depletion and weakening attraction.
- 2. Disturbed law and order conditions and growing insurgencies.
- 3. Land banks and land availability will limit private sector investment if not addressed.
- 4. Growing migration of rural people to urban areas for employment prospects is also a threat.

The SWOT analysis of NER shows that the strong natural resources base like forest, mineral, and water resources are the greatest strength of North Eastern states, which can be utilized appropriately to overcome the weakness; then can we grab the development opportunities. The region is landlocked. However, this weakness can be converted into opportunities by developing border trade, as 98 percent of the border of this region is an international boundary. Again, the presence of hills, rivers, lakes, forests, etc., makes this region a natural tourist spot. This SWOT analysis will naturally help formulate proper policy initiatives to utilize the strengths, address the weaknesses, grab the opportunities, and overcome the threats to develop the North Eastern Region.

## Wealth Generation in North East India

North East India is profuse in natural resources and cultural diversity, making it a region with significant potential for economic development. Despite this, the region faces challenges in harnessing its resources for wealth generation. This overview explores the key factors influencing wealth generation in North East India, focusing on natural resources, entrepreneurship, industrialization, and government initiatives. This region has immense wealth generation potential through its natural resources, entrepreneurship, and industrialization. However, realizing this potential requires overcoming infrastructure, education, and regional planning challenges. Government initiatives and policies are crucial in addressing these challenges and fostering sustainable economic growth in the region.: Improving infrastructure and providing better educational facilities are critical for promoting entrepreneurship and economic development. These efforts are essential for overcoming the socio-economic challenges faced by the region (Moutushi, 2023; Kumar & Shobana, 2023). Government policies, such as the North East Industrial and Investment Promotion Policy, aim to support the enlargement of micro, small, and medium enterprises (MSMEs) vital for entrepreneurship and employment generation (Chakrabartty, 2017). The industrial and service sectors have shown more economic growth than agriculture and allied activities, indicating a shift in the region's economic focus (Rana, 2023). Industrialization is crucial for economic development, yet the region lags due to inadequate regional planning and infrastructure. Tailored regional planning is suggested to effectively utilize the region's resources and promote industrial growth (Banik & Shil, 2023). Despite the potential, entrepreneurship faces challenges such as a lack of education, skill development, and infrastructure. Efforts are being made to address these through skill development programs and support for female entrepreneurs (Moutushi, 2023; Kumar & Shobana, 2023). Entrepreneurship is perceived as a key driver for economic growth in the region. Initiatives like the Prime Minister's Employment Generation Programme (PMEGP) have been instrumental in promoting entrepreneurship and creating employment opportunities, particularly in rural areas (Kumar & Shobana, 2023; Chakrabartty, 2017). The region has a substantial hydropower capacity, with only a tiny fraction currently harnessed. This untapped potential positions North East India as a potential powerhouse for energy production (Das, 2013). North East India has vast natural resources, including hydropower potential, coal, petroleum, natural gas, and rich biodiversity. These resources present significant opportunities for economic development and wealth generation (Bharali, 2020; Ram & Prasad, 2012; Banik & Shil, 2023).

## Literature Reviews

Chatterjee, A. and Mitra, S. K. (2022) used panel data analysis to study the link between income inequality and economic development in India. According to the authors, income disparity has a detrimental influence on India's economic growth. They contend that measures targeted at lowering inequality in income, such as progressive taxes and social security programs, can help boost economic development.

Kanbur, R. (2022) investigated the issues of closing the inequality-inclusive growth gap in India. The article addresses the different causes contributing to the disparity in India, such as historical influences, the Indian economy's structure, and cultural and social standards. The author also investigates policies and initiatives to alleviate inequality in India, emphasizing the importance of a holistic and integrated strategy to achieve inclusive growth

Ravallion, M. (2022) detailed the characteristics of income and wealth inequality in India and recommended viable policy actions to address it.

Ministry of Finance, Government of India in Economic Survey of India: 2020-21 has repeatedly emphasized the issue of income and wealth disparity in India. Rising inequality was cited as a key concern for the Indian economy in the 2020-21 Economic Survey, and initiatives to encourage equitable growth were advocated, such as boosting opportunities for education and healthcare, strengthening social safety programs, and generating more formal-sector employment.

### Objectives of the study

The objective of this paper can be classified into the following statements: -

- i) To quantify the linear dependence of the Gini Coefficient on the Mean International Wealth Index at the national level
- ii) To quantify the linear dependence of the Gini Coefficient on the Mean International Wealth Index at the state level for all northeastern states
- iii) To compare the linear dependence of the Gini Coefficient on the Mean International Wealth Index at the national and northeastern state levels.

### **Data collection**

The analysis used secondary data from the Area Database of Global Data Lab, an independent data and research center at Nijmegen School of Management of Radboud University. Only two variables, the Mean International Wealth Index [a measurement of the average wealth of a region] and the Gini Coefficient [a measure of income inequality], were selected from the area data. The period of the analysis is from 1992 to 2022. During this period, inequality and political issues remained paramount for India. However, in this period, the country gained its economic pace through significant reforms and liberalization, achieving substantial economic progress and global integration. Addressing these challenges while leveraging its strengths will be crucial for sustaining growth and improving living standards.

## Research Methodology

The analysis depends on simple linear regression models. A simple linear regression aims to forecast the value of a dependent variable based on an independent variable. The greater the linear association between the independent and dependent variables, the more precise the prediction. This goes along with the fact that the more significant the proportion of the dependent variable's variance that the independent variable can explain, the more accurate the prediction. Undisguisedly, the relationship between the variables can be exhibited in a scatter plot. The more prominent the linear relationship between the dependent and independent variables, the better the data points repose on a straight line.

The following equation can describe the regression line:

$$\hat{y} = bx + a + \in$$

Here,  $\hat{y}$  is estimated dependent variable

b is the gradient of the straight line

x is the independent variable

a is the point of intersection with the y-axis

€ is the residual or error parameter

The regression coefficient b can have different signs, which can be elucidated as follows

- b > 0: positive correlation between x and y (the greater x, the greater y)
- b < 0: negative correlation between x and y (the greater x, the smaller y)

• b = 0: There is no correlation between x and y

## Analysis and interpretation

Linear regression has been utilized in the analysis. Nine linear models have been developed, one at the national level and eight for each northeastern state, as presented in Table 1. Here, the coefficients of the independent variables of the models define the variability of the Gini coefficient with the change of the Mean International Wealth Index. It is desirable to have a negative IWI coefficient on the Gini coefficient.

	Estimate		Std. Error		T value		P Value			
Region	Intercept	IWI	Intercept	IWI	Intercept	IWI	Intercept	IWI	Adjusted R-squared	F-statistic: p-value
India	0.7045	-0.0082	0.0035	0.0001	198.7000	-102.7000	<2e-16	<2e- 16	0.9972	< 2.2e-16
Arunachal Pradesh	0.5936	-0.0067	0.0068	0.0001	87.6100	-49.3900	<2e-16	<2e- 16	0.9878	< 2.2e-16
Assam	0.7009	-0.0099	0.0034	0.0001	205.2100	-98.2600	<2e-16	<2e- 16	0.9969	< 2.2e-16
Manipur	0.5929	-0.0071	0.0073	0.0002	81.0600	-43.9100	<2e-16	<2e- 16	0.9847	< 2.2e-16
Meghalaya	0.7099	-0.0091	0.0064	0.0001	110.1400	-62.2200	<2e-16	<2e- 16	0.9923	< 2.2e-16
Mizoram	0.6089	-0.0066	0.0054	0.0001	112.1600	-72.9700	<2e-16	<2e- 16	0.9944	< 2.2e-16
Nagaland	0.5929	-0.0068	0.0051	0.0001	116.2500	-66.7100	<2e-16	<2e- 16	0.9933	< 2.2e-16
Sikkim	0.5251	-0.0060	0.0406	0.0007	12.9350	-8.3650	0.0000	0.0000	0.7262	0.0000
Tripura	0.6404	-0.0087	0.0138	0.0004	46.4700	-24.3100	<2e-16	<2e- 16	0.9516	< 2.2e-16

Table 1

As observed from Table 1, all nine models have high adjusted  $R^2$  and significant P values of F statistics. This proves the goodness-of-fit of all the developed models. The high adjusted  $R^2$  values indicate that the models sufficiently expounded the proportion of the variability in the dependent variable (i.e., the Gini coefficient). The P values of the F statistics imply that the models are statistically significant. This robust analysis furnishes a solid foundation for the conclusions drawn.

## Findings and conclusion of the study

Economic growth in the northeastern region has been impressive in the last two decades, with an annual growth rate of over 8 %. The movement towards more productive industries performed a large part in this. Assam has India's highest recoverable crude oil and natural gas reserves. The Ministry of Petroleum and Natural Gas's Hydrocarbon Vision 2030 focuses on expanding oil and gas production in the northeastern region to contribute to overall socio-economic development. Assam has over 100 oil fields and 200 million metric tons of crude oil reserves. Assam accounts for 15 % of India's crude output and 50 % of the country's entire onshore oil and natural gas production. The resource can enhance economic transformation across the state. While based on the region's hydrocarbon resources, it could become a net exporter in the coming years, the states also have substantial potential in renewable energy. The Central Electricity Authority (CEA) approximates the region has a hydropower potential of 58,971 MW. The region primarily depends on an agrarian economy, but manufacturing sectors are developing according to the central government's objectives. The northeastern states have considerable manufacturing potential, primarily for two reasons. Firstly, the location of the region, linking India to the Southeast Asian markets, makes the region desirable as a potential manufacturing hub. Secondly, the region has lavish social capital, cheap labor costs, and many natural resources, including huge energy potential.

Based on the analysis done in Table 1, it is found that-

- The International Wealth Index adversely impacts the Gini coefficient for all northeastern states and India. So, government policies and initiatives must be adhered to to generate wealth and ensure a more equal future.
- 2) Though IWI coefficients are negative, the magnitudes are low. This indicates that while wealth generation has a consistent negative impact on income inequality, the extent of this impact is relatively small. Therefore, other factors may also play a significant role in determining income inequality.
- 3) The IWI coefficient at the national level is -0.008232. However, Arunachal Pradesh, Manipur, Mizoram, Nagaland, and Sikkim have a lower magnitude of IWI coefficients than the national level.
- 4) Assam, Meghalaya, and Tripura have a higher magnitude of IWI coefficients than the national level.

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