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Poverty Reduction and Pro-poorness Growth in Bihar and Jharkhand: A Comparative Analysis

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Abstract: This study compares poverty reduction and pro-poorness of growth in rural and urban areas of Bihar, Jharkhand, and of all India. Bihar has recorded faster poverty reduction during 2004-05 and 2011-12 in compassion to Jharkhand and all-India. An increasing trend was witnessed in growth inequality at all Indian levels, but a reverse declining trend was witnessed in Bihar. Further, growth inequality has decreased in rural areas of Bihar and Jharkhand but increased in urban areas. The positive value of inequality elasticity at the all-India level simply implies that poverty alleviation programs did not adequately benefit poor people. The inequality elasticity was negative in both the rural and urban sectors of Bihar and the urban sector of Jharkhand implying that the lower strata have benefitted more than the upper-income group. A larger reduction in inequality in both rural and urban areas suggests that Bihar implemented more effective pro-poor programs than Jharkhand. Surprisingly, the inequality elasticity was positive in the rural sector of Jharkhand implying that programs did not benefit adequately rural people in Jharkhand. The poverty reduction impact on the growth of income measured by poverty elasticity of growth remains the same for both Bihar and Jharkhand. However, Bihar witnessed faster poverty reduction due to effectiveness of anti-poverty measures and welfare spending, reflected by higher efficiency in reducing poverty in the decomposition of annual change in poverty.

Keywords: Poverty Measurement; Poverty Reduction; Pro-poor Growth; Poverty Alleviation Programs; Poverty Growth Curve; Inequality Elasticity of Growth; Pro-Poor Growth Index (PPGI).

JEL Codes: I31; I32; O4.

1. Introduction

The Indian economy has witnessed long-term steady growth but The primary concern of the policymakers, however, continues to be poverty reduction and ensuring distributional benefits of growth to the person at the bottom rung of the society. Bihar and Jharkhand were bifurcated in 2000 with the sole objective of better-managing problems that were damaging growth prospects, and distributional constraints that were restricting poverty

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reduction. Over two decades the bifurcation has rarely changed the scenario and both states in terms of the poverty gap, which measures the depth of poverty, continue far above the national average. The **Multidimensional Poverty Index (MPI)** report released by the Niti Aayog in **November 2021**, mentions the **National MPI score of India** as **0.118** – 0.08 for **Urban** areas, and 0.155 for **rural** areas. **Bihar, & Jharkhand** have registered the highest poverty rate in India with **51.91%** of the population in **Bihar** classified as poor, followed by **Jharkhand (42.16%).** It is an issue of concern for the policymakers to enquire as to how the number of persons who lives below the poverty line in these developing sister states is reducing over time and whether the impact of the Government's existing policies has disproportionately benefitted the poor to cross over the poverty line and calls for examining twin issues of poverty reduction and pro-poorness growth.

Poverty reduction refers to efforts that may include policies and programs such as providing education, healthcare, job training, and social safety nets aimed at reducing the number of people who live below the poverty line or increasing the income and wealth of those who live in poverty. Pro-poorness growth, on the other hand, refers to economic growth that disproportionately benefits the poor. In other words, pro-poorness growth is growth that reduces poverty and inequality through policies and programs that promote inclusive growth, such as investments in infrastructure, education, and healthcare, as well as social safety nets and targeted assistance for the poor. While poverty reduction and pro-poorness growth are related concepts, they are not the same thing. Poverty reduction is a more general term that includes all efforts aimed at reducing poverty, while pro-poorness growth specifically focuses on ensuring that economic growth benefits the poor. Both poverty reduction and pro-poorness growth are important goals for governments and policymakers, as reducing poverty and inequality can help to promote economic and social development and improve the well-being of individuals and communities.

2. Poverty Alleviation Programs

India has implemented a range of poverty alleviation programs aimed at addressing the country's high levels of poverty and unemployment. These programs have had a significant impact on the employment situation in India, particularly in rural areas. The MGNREGA, for instance, guarantees at least 100 days of employment to every rural household that is willing to do unskilled manual work. This has created a huge demand for labor in rural areas and has helped to reduce poverty by providing employment opportunities to the poor. Similarly, the PMGAY and PMJDY have provided employment and financial inclusion opportunities to the poor in rural areas. The PMGAY provides financial assistance to build houses for the poor, which has led to the creation of jobs in the construction sector. The PMJDY has helped to bring the poor into the formal banking system, providing them with access to credit and other financial services. The NRLM is another important poverty alleviation program that has aims to promote self-employment and entrepreneurship among the poor, particularly women and had a significant impact on employment in India. NRLM is providing poor households with training, credit, and other support to start their businesses and has led to the creation of a large number of micro-enterprises in rural areas, providing employment opportunities to the poor. Though the poverty alleviation programs have had a positive impact on the employment situation in India, particularly in rural areas, and have helped to reduce poverty by providing income to the poor, but there is still a long way to go in terms of achieving full employment and reducing poverty in India.

3. Poverty Measurement

India has implemented a range of poverty alleviation programs aimed at addressing the country's high levels of poverty and unemployment. These programs have had a significant impact on the employment situation in India, particularly in rural areas, and have helped to reduce poverty by providing income to the poor. It is therefore important to rationally examine the approaches of poverty measurement and their implications. There are different approaches to measuring poverty, each with its strengths and limitations. These are:

(i) The Income-based approach: This approach defines poverty based on the income level of individuals or households. The poverty line is typically set as a fixed amount of income below which a person or household is considered poor. The main advantage of this approach is that it is easy to measure and provides a simple way to identify the poor. However, it does not take into account non-monetary aspects of poverty, such as access to basic services like education and healthcare.

(ii) Multidimensional approach: This approach defines poverty in terms of multiple dimensions, such as education, health, and standard of living. It recognizes that poverty is a complex phenomenon and that individuals and households may be poor in different ways. The main advantage of this approach is that it provides a more comprehensive understanding of poverty and helps to identify the most deprived sections of society. However, it can be difficult to measure and compare across different countries/ regions and contexts.

(iii) Relative approach: This approach defines poverty in relative terms, based on the standard of living of the population as a whole. The poverty line is typically set as a percentage of the median income or consumption level. The main advantage of this approach is that it takes into account changes in the overall standard of living and helps to identify those who are relatively worse off. However, it does not take into account absolute levels of deprivation and can be sensitive to changes in the distribution of income or consumption.

iv) Deprivation approach: Poverty refers to the deprivation of a minimum level of living defined in income or its bare minimum consumption terms. A household failing to meet this level of consumption expenditure is treated as a poor household. Households that cannot afford the minimum necessities for healthy, active, and productive lives are called poor. Cappellari& Jenkins, (2007)(1) focused on the deprivations concept as poverty does not simply mean not having enough money but having a lack of access to resources enabling a minimum style of living and participation in the society within which one belongs in areas such as literacy, schooling, life expectancy, child mortality, malnutrition, safe water, and sanitation. However, it is very difficult to aggregate deprivations. The UNDP in its Human Development Report considers some of these non-income dimensions of deprivation, which is based on the approach of capability upgradation and enlargement of opportunities for the people. Income deprivation, which restricts people to expand their basic capabilities to function is connected with other types of deprivation not always directly related to other deprivations. This minimum level of consumption expenditure can be derived, in terms of minimum expenditure on food (to fulfill certain nutritional standards) and non-food items (providing literacy & schooling, enhancing life expectancy, reducing child mortality, eradicating malnutrition, safe water, and sanitation).

v) The Poverty line, Headcount ratio (HCR), Poverty gap, Squared poverty gap, Lorenz curve, Gini coefficient, and $1 a day are the other concepts related to the measurement of poverty. The level of monthly expenditure that enables an individual to consume a minimally defined number of calories per day is defined in India as the poverty line. Krishna, A. and Shariff, A., (2010) (2) mention that it is not a lack of resources or technical skills in India which are hindrances in our development rather it is mainly due to the gap between policies and legislation. The poverty gap, on the other hand, is the ratio by which the mean income of the poor falls below the poverty line and shows the average shortfall of the total population from the poverty line—the minimum level of income required to secure the necessities for survival. It reflects the intensity of poverty in a nation and helps refine the poverty rate by indicating the poverty level in a country. A multidimensional approach may be more appropriate for designing interventions that address different aspects of poverty, such as access to ssseducation and healthcare. Ultimately, the choice of approach will depend on the specific context and policy goals.

4. Poverty & Economic Theory

Poverty and economic theory are closely linked, as theories help to explain the causes of poverty and guide policy interventions to address it. Several economic theories are relevant to understanding poverty and its significance in the Indian context:

1. Human Capital theory: This theory suggests that investing in education, healthcare, and other forms of human capital can help to increase productivity and reduce poverty. Access to quality education and healthcare remains a major challenge for many, particularly in rural areas in India. So, investing in human capital can help to address this challenge and create opportunities for economic growth and development.
2. Structural Transformation theory: This theory suggests that as economies develop, they undergo a structural transformation from agriculture to industry and services, which is accompanied by a shift from low-productivity, informal jobs to higher-productivity, formal jobs. In India, industry and services sectors are needed to create more jobs to absorb the large number of people currently employed in low-productivity, informal jobs in agriculture.
3. Capability approach: This theory suggests that poverty should be understood in terms of people's capabilities to live a life they value and emphasizes the importance of providing opportunities and resources that enable people to realize their full potential. This approach can be used in India to guide policies that focus on improving access to education, healthcare, and other basic services, as well as providing social protection to the most vulnerable people.
4. Redistribution theory: This theory suggests that redistribution of resources and income reduces poverty and inequality. There is a need to address the large income and wealth disparities that exist in India between different sections of society. Policies that focus on progressive taxation, targeted subsidies, and social protection can help to address these disparities and reduce poverty.

In summary, economic theories can help to guide policy interventions to address poverty in India. Investing in human capital, promoting structural transformation, focusing on capabilities, and addressing income and wealth disparities are all important strategies to reduce poverty and promote economic development in the country. All these theories argue that only economic growth matters for poverty reduction and the growing economy will take care of the poor. But evenly spreading the benefits of growth among the poor is more important as the process could considerably enhance the rate of reduction of poverty. This, generated interest in several studies to focus on poverty reduction [Datta & Ravallion(1998)(3); Ravallion & Datta(2002)(4); Bandhopadhaya (2007)(5); Thorat (2012)(6)]. All these prompted the Government of India to adopt the strategy of inclusive growth to enable the growth process pro-poor. Implementation of this strategy is, however, challenging since the Indian states are diverse in terms of resource endowment, and hence, the economic development scenario is different across the country. Some states have high per capita income with a faster growth rate, while others are witnessing stagnancy in income and growth [Ahluwalia(2000)(7); DeLong (2012)(8); Kumar & Subramanium (2012)(9); Raju (2012)(10)]. Many studies have compared Bihar & Jharkhand {Sinha (2019,2022)(11,12)Sinha & Sinha (2022a,2022b) (13,14)}.It may be interesting to look into poverty, growth, and redistribution between these two states at the same level of development. This article attempts to analyze the model of development pursued in Bihar and Jharkhand after the bifurcation in 2000 by inquiring pro-poorness of economic growth in these two states.

5. Analytical Framework

(i) Data

The unit-level data on the Consumer Expenditure Survey of 2004-05 (61st round); and 2011-12 (68th round) of the NSSO has been used. The MPCE value (monthly per capita consumption expenditure) for 2004-05 and 2011-12 were adjusted at the 2004-05 base. This study, however, remained deprived of the unit-level data for the Consumer Expenditure Survey 73rd round as it was not released.

ii) Methodology

The study is based on the Tendulkar poverty line to estimate the poverty headcount ratio (HCR) for the states. The Tendulkar Poverty Line is based on the concept of calorie intake and the minimum expenditure required to meet the basic nutritional requirements of an individual or household. It estimates poverty based on the consumption of food, fuel, clothing, and other necessities. The poverty line is then calculated as the expenditure required to meet this minimum calorie intake, adjusted for inflation and regional differences in prices. The poverty-growth elasticity is a measure of the relationship between economic growth and poverty reduction and measures the percentage change in poverty for every 1% change in economic growth. A positive poverty-growth elasticity means that as the economy grows, poverty rates decrease;

whereas a negative poverty-growth elasticity implies that economic growth leads to an increase in poverty rates. The poverty-growth elasticity can vary depending on a range of factors, including the initial level of poverty, the distribution of income, and the effectiveness of government policies. In general, the poverty-growth elasticity tends to be higher in low-income states where poverty is more prevalent and the potential for economic growth is greater. The poverty-growth elasticity is important for policymakers and development practitioners to understand who is working to reduce poverty as by analyzing the poverty-growth elasticity, they can identify the most effective policies and interventions to promote economic growth and poverty reduction.

Pro-Poor Growth Index (PPGI) {Kakwani and Pernia (2000)(15)} developed to measure the degree of being pro-poor shows the relationship between total poverty reduction and the poverty reduction resulting from distribution-neutral growth and is a measure to evaluate the effectiveness of economic growth in reducing poverty and improving the well-being of the poorest members of society. The PPGI is based on the premise that economic growth alone is not sufficient to reduce poverty and that it is important to ensure that growth is inclusive and benefits the poorest segments of society and combines information on both the level of poverty and the distribution of income. The index considers two main factors: the rate of economic growth and the distribution of income. Data were gathered on the economic growth rate, income distribution, and poverty rate to calculate the PPGI. The index then uses a formula to combine these factors into a single score that reflects the degree to which economic growth is pro-poor. A higher PPGI score indicates that economic growth has a greater impact on reducing poverty and improving the well-being of the poorest members of society. The PPGI is a useful tool for policymakers and development practitioners who are working to promote economic growth that benefits the poorest segments of society. It can be used to assess the effectiveness of different policies and interventions aimed at reducing poverty and to identify areas where further action is needed to ensure that economic growth is inclusive and pro-poor. The PPGI captures the distribution of growth benefits among the poor and non-poor but does not consider the actual growth rate level. Kakwani and Son (2008) (16)modified PPGI by dividing it by the growth rate (g) and termed (g*) which is characterized by the trickle-down process when the poor receive fewer benefits from growth than the non-poor.

(a) Poverty Growth Curve

The poverty growth curve is a graphical representation of the relationship between economic growth and poverty reduction. The curve shows how the level of poverty changes as the economy grows over time. At the beginning of economic growth, poverty may initially increase due to factors such as income inequality and job displacement.

However, as the economy grows and becomes more productive, poverty begins to decline. As the level of economic growth continues to increase, poverty reduction accelerates and the poverty growth curve starts to bend downwards. The poverty growth curve is based on the idea that economic growth alone is not sufficient to reduce poverty. Rather, policies and programs that are specifically targeted at reducing poverty are necessary to ensure that the benefits of economic growth are shared by all sections of society. The poverty growth curve is often used as a tool for policy analysis and evaluation. By examining the shape and trajectory of the curve, policymakers can identify the factors that are contributing to poverty reduction and design policies and programs to further accelerate poverty reduction. In the context of India, the poverty growth curve has shown a decline in poverty rates over the past few decades, but with significant disparities across regions and social groups. While economic growth has played an important role in poverty reduction, there is a need for targeted poverty alleviation programs and policies to ensure that the benefits of growth are shared more equitably.

Ravallion & Chen (2003)(17) introduced Group Incidence Curve (GIC) to show that the group in the period is pro-poor if the growth rate declines monotonically moving from the bottom center to the top centile, which means that the income of the lower decile rises at a faster rate than the higher decile. If the GIC increases monotonically, it means that the growth is anti-poor, that is, the mean income of the higher decile rises at a faster rate than the lower decile.

(b) Inequality Elasticity of Growth

Inequality elasticity of growth is a measure of how changes in income inequality affect economic growth. It measures the percentage change in economic growth resulting from a one percent change in income inequality. The inequality elasticity of growth can be positive or negative, depending on the direction of causality. If greater income inequality leads to higher economic growth, the elasticity is positive. If greater income inequality leads to lower economic growth, the elasticity is negative. The concept of inequality elasticity of growth is based on the idea that income inequality can have both positive and negative effects on economic growth. While income inequality can incentivize individuals to work harder and invest more, leading to higher economic growth it can also lead to social unrest and political instability, which can hinder economic growth. In the context of India, the inequality elasticity of growth is negative, indicating that greater income inequality hurts economic growth. This is partly because income inequality in India is accompanied by lower levels of human capital, poorer health outcomes, and limited access to credit and other resources, all of which can hinder economic growth. Policymakers in India are increasingly recognizing the negative impact of income inequality on economic growth and are implementing policies to address it. These policies include investments in human capital, social protection programs, progressive taxation, and policies to promote inclusive growth. By reducing income inequality, policymakers hope to promote sustainable and inclusive economic growth in the country.

The relationship between poverty, growth, and inequality are described by two forms of elasticity viz., i) poverty elasticity and ii) inequality elasticity. The ratio of the relative change in poverty percentage between the two periods to the relative change in MPCE in those periods termed poverty elasticity, establishes the relationship between growth and poverty and is always negative and implies that with a rise in MPCE, there will be a decline in poverty between the two periods. If it is greater than one (in absolute terms), it will imply that poverty declined faster than the rise in MPCE, meaning thereby that the greater value of the poverty elasticity is better for the poor from the growth process. It may, however, be mentioned that if the poverty elasticity is lower than one, it implies that poverty reduction is lower than a rise in MPCE or income. The other form of elasticity i.e. inequality elasticity is the ratio of the percentage change in the Gini Coefficient to the percentage change in the MPCE between the two periods, establishing the relationship between growth and inequality. Inequality might rise or fall with a rise in MPCE, implying that the inequality elasticity between the two periods can be positive or negative. The positive sign of inequality elasticity implies that the growth in MPCE causes a rise in inequality, which only benefits people from certain strata while the negative sign of inequality elasticity implies a rise in MPCE, leading to a reduction in inequality, meaning thereby that the lower strata have benefitted more than the upper-income group.

6. Results & Discussion

(i) Poverty Trend

The study period recorded faster growth at the national and states level. But the growth pattern in states is uneven as they are constituted by different demographic, economic, social, and geographical features leading to variations in growth patterns, poverty, inequality levels, and hence the poverty reduction and income distribution. The poverty ratio in rural India during 2004-05 to 2011-12 has been higher than that of urban areas and so is the case with Bihar and Jharkhand. There is a considerable reduction in poverty both in the rural and urban sectors in India but the rate of reduction varies widely. It can be seen that the reduction in rural areas has been reduced to 25.7% from a significant 41.8%, i.e. by 16.1 percentage points at the national level. The reduction in poverty level in Bihar (21.6) compared to the national scene in rural areas was more than five points higher, while it was 5.3 points lower in Jharkhand(10.8%). The poverty level in urban areas was reduced by twelve percentage points at the national level and 12.5% in Bihar, though it increased by one percentage point in Jharkhand. State-specific poverty lines, and changes in poverty ratio in rural and urban areas of Bihar, Jharkhand, and India are presented in Table 1.

TABLE 1: State Specific Poverty Line, Change in the Number of Persons, and Change in the percentage below the poverty line in Bihar, Jharkhand & India: 2004-05 to 2011-12.

Sr. No.	*Item*		*Bihar*	*Jharkhand*	*India*
1.	State-specific poverty line (Rs per capita per month)	Rural(i)2004-05	433	405	447
		(ii)2011-12	778	748	816
		(iii) Percentage change	79.7	84.7	82.6
		Urban(i)2004-05	526	531	579
		(ii)2011-12	923	974	1000
		(iii) Percentage change	75.5	83.1	72.7
2	(i)Change in the number of people (no. in lakh)	Rural	124.7	11.0	1100.0
		Urban	3.1	(-)4.6	276.4
		Total	127.8	6.2	1376.4
	(ii) Change in the percentage below the poverty line	Rural	21.6	10.8	16.1
		Urban	12.5	(-)1.0	12.0
		Total	20.7	8.3	15.3

Source: Planning Commission, India

The poverty ratio reduced more steeply in rural and urban areas of Bihar as compared to all of India while the reduction was slower in the rural area and increased in urban areas of Jharkhand. Surprisingly, the poverty ratio increased by one percent in the urban area of Jharkhand during 2004-05 to 2011-12. Bihar witnessed a reduction of 20.7% against 15..3% in India, while the reduction was merely 8.3% in Jharkhand, concluding thereby that Jharkhand has to make more efforts in poverty reduction programs.

(ii) Poverty Incidence

The poverty head count ratio (HCR) of Bihar, Jharkhand, and India for both the rural and urban areas are presented in Table- 2. Poverty incidence has declined across sectors during the study period.

TABLE 2: Level of Living in Rural and Urban Bihar Jharkhand & India: 2004-05 & 2011-12

Sr. No.	Item		*Bihar* Rural	*Bihar* Urban	*Jharkhand* Rural	*Jharkhand* Urban	*India* Rural	*India* Urban
1.	MPCE	2004-05	444.87	1005.80	451.63	1016.33	579.17	1104.60
		2011-12	568.88	1212.85	639.35	1367.50	703.37	1431.80
2.	HCR	2004-05	42.10	34.60	46.30	20.20	28.30	25.77
		2011-12	34.04	31.23	40.84	24.83	25.89	13.73
3.	PG	2004-05	9.37	3.92	7.45	4.10	9.66	6.09
		2011-12	3.32	1.65	2.46	1.09	5.10	2.72
4.	SPG	2004-05	3.17	1.14	2.13	1.25	3.17	2.05
		2011-12	0.81	0.40	0.58	0.34	1.51	0.80
5.	Gini Coeff.	2004-05	0.27	0.31	0.28	0.37	0.28	0.36
		2011-12	0.25	0.29	0.28	0.34	0.29	0.38

Note: The Author's calculation from various rounds of NSSO data.

Table 2 reveals that the poverty incidence has declined across the rural-urban sectors between 2004-05 and 2011-12 except in the urban area in Jharkhand. The relative position of decline in poverty incidence and how that has changed over the period in Jharkhand and Bihar is interesting. The poverty rate in rural Jharkhand was more than the rural Bihar in early 2000, while urban Jharkhand was far better than urban Bihar and even all of India. The HCR declined more steeply in rural Bihar than in Rural Jharkhand and all India of. The HCR, however, increased in urban Jharkhand, while it declined in urban Bihar but at a pace much slower than the all-India urban sector. Though Bihar registered an impressive decline in poverty ratio in both rural and urban sectors, it could hardly change its relative position in the national scene over the period 2004-05 and 2011-12 and Jharkhand registered a much slower decline during this period.

Two other measures of poverty reduction, viz., poverty depth and squared poverty gap follow the same trend as the poverty HCR. The poverty reduction during the period under consideration is impressive because of the faster growth in MPCE and the rise or fall in inequality. Table 2 presents the real MPCE (converted into real MPCE by considering 2004-05 as the base year of comparison over time) and the degree of inequality measured in the Gini Coefficient for the rural and urban sectors of Bihar, Jharkhand, and all of India. Tables 1 & 2 reveal that Jharkhand has higher real MPCE than Bihar in both rural and urban sectors during 2004-05 and 2011-12. Bihar consistently remained below the India level, whereas, Jharkhand had higher real MPCE than all-India in 2004-05, but it declined to the all-India level during 2011-12. The annual real growth in the real MPCE of Bihar is lower than all of India and Jharkhand in both rural and urban sectors. These Tables show that the absolute HCR, Poverty Depth, and Squared Poverty Gap in 2004-05 in Bihar are higher than in Jharkhand. However, successive years witnessed a poverty ratio lower than in Jharkhand, though India showed a slower decline in Jharkhand. Table 2 shows that all the measures of poverty reduction considered in this study, i.e., HCR, Poverty Depth, and SPG witnessed a faster decline in Bihar than in Jharkhand and all of India. Hence, Bihar has witnessed both in the rural and urban sectors, a decline in the poverty ratio, which is faster than Jharkhand and the all-India average. Bihar has witnessed a decline in inequality, though at the national level inequality witnessed an increasing trend. In Bihar and Jharkhand, inequality decreased in rural areas but increased in urban areas. This trend continues in 2019-20 as revealed by the Poverty Head Count Ratio (HCR) for Bihar, Jharkhand, and India, 2019-20 in Table 2A.

TABLE 2A: Poverty Head Count Ratio (HCR) for Bihar, Jharkhand, and India, 2019-20

	Rural	*Urban*	*Overall*
Bihar	33.7	11.2	35.0
Jharkhand	39.1	13.3	37.0
India	24.9	9.2	22.0

Note: These figures are based on the official poverty line used by the Government of India, which is calculated using the Tendulkar methodology. The poverty line is based on the minimum consumption expenditure required to meet basic needs such as food, clothing, and shelter, and is adjusted for inflation and regional price differences.)

It is worth noting that while there has been a decline in poverty rates in Bihar, Jharkhand, and India over the past few decades, there are still significant disparities in poverty rates across rural-urban sectors though the government and various organizations have implemented various poverty alleviation programs and policies to address these disparities and reduce poverty in the country.

(iii) Elasticity of Poverty, Growth, & Inequality

Three interrelated economic concepts that can impact each other in various ways are the elasticity of poverty, growth, and inequality.

i) Elasticity of poverty: The elasticity of poverty measures the percentage change in poverty resulting from a one percent change in income or economic growth. The elasticity of poverty is negative, which means that economic growth can help to reduce poverty. However, the elasticity of poverty varies across countries and regions and can be influenced by factors such as income inequality, access to education and healthcare, and social protection programs.

(ii) Elasticity of growth: The elasticity of growth measures the percentage change in economic growth resulting from a one percent change in a particular factor, such as investment or exports. The elasticity of growth can be influenced by various factors such as infrastructure, innovation, education, and trade policies. Inequality can also impact the elasticity of growth, with greater income inequality leading to lower economic growth.

(iii) Elasticity of inequality: The elasticity of inequality measures the percentage change in income inequality resulting from a one percent change in economic growth or other factors. The elasticity of inequality can be positive or negative, depending on the direction of causality. Greater income inequality can hinder economic growth, while economic growth can help to reduce income inequality through job creation and increased access to education and healthcare.

These elasticities suggest that reducing poverty and inequality is not only a matter of social justice, but it can also contribute to economic growth and development. Policies that promote inclusive growth, investment in human capital and provide social protection can help to reduce poverty and inequality and contribute to sustainable economic growth. This section explores the reasons for the faster reduction in poverty HCR through the study of poverty elasticity and inequality elasticity which were discussed in section 5. (ii). Table 3 presents poverty elasticity and inequality elasticity for the rural and urban sectors of Bihar, Jharkhand, and all of India.

TABLE 3: Poverty Elasticity and Inequality Elasticity for the rural and urban sectors of Bihar, Jharkhand, and all of India

Sr. No	*Parameter*	*Rural*			*Urban*		
		Bihar	*Jharkhand*	*India*	*Bihar*	*Jharkhand*	*India*
1.	Poverty Elasticity	-3.391	-3.194	-2.478	-4.238	-4.265	-2.427
2.	Poverty Inequality	-0.307	0.080	0.127	-0.461	-0.293	0.125

Source: Author's calculation.

Table 3 reveals a lot about poverty alleviation programs. The poverty elasticity was greater than one (in absolute terms) signifying that poverty declined faster than the increase in MPCE in Bihar, Jharkhand, and all of India. The decline in poverty was faster in Bihar and Jharkhand as compared to all of India in both rural and urban sectors. The positive value of inequality elasticity at the all-India level simply implies that the growth in MPCE causes a rise in inequality, which only benefits people from certain strata, i.e., poverty alleviation programs did not adequately benefit the poor people. The inequality elasticity was negative in both the rural and urban sectors of Bihar and the urban sector of Jharkhand implying that the lower strata have benefitted more than the upper-income group. A larger reduction in inequality in both rural and urban areas suggests that Bihar implemented more effective pro-poor programs than Jharkhand. Surprisingly, the inequality elasticity was positive in the rural sector of Jharkhand meaning that programs did not benefit adequately rural people in Jharkhand.

(iv) Pro-Poorness Growth Assessment

Pro-poor growth assessment is an approach to economic development that aims to measure the extent to which economic growth reduces poverty and inequality. The central goal of pro-poor growth assessment is to ensure that economic development policies and strategies benefit the poor and vulnerable segments of society. There are several ways to assess pro-poor growth. Some of the common indicators used in pro-poor growth assessment include:

(i) Poverty reduction: This refers to the reduction in the number of people living below the poverty line. It can be measured in terms of the percentage of the population living in poverty, the number of people lifted out of poverty, and the poverty gap.

(ii) Income distribution: This refers to the distribution of income across different segments of society. It can be measured using the Gini coefficient or other measures of income inequality.

(iii) Access to basic services: This includes access to education, healthcare, water, and sanitation. It can be measured using indicators such as literacy, infant mortality, and access to safe drinking water.

(iv) Employment and livelihood opportunities: This includes the availability of jobs and the ability of people to earn a decent living. It can be measured using indicators such as unemployment rates, wage rates, and the number of people engaged in formal and informal employment.

(v) Social protection: This refers to the measures taken to protect the poor and vulnerable from economic shocks and risks. It can be measured using indicators such as social assistance programs, insurance coverage, and the availability of safety nets.

In addition to these indicators, pro-poor growth assessment also takes into account the social and political factors that can affect economic development. This includes factors such as gender equality, political stability, and the rule of law. Overall, pro-poor growth assessment is an important tool for policymakers and development practitioners who want to ensure that economic growth is inclusive and benefits everyone, especially the poor and vulnerable segments of society. The Pro-Poor Growth

Index (PPGI) is suitable to examine the extent to which growth has been in favor of the poor, but not for comparison for regions/states /countries with different growth rates. The Poverty Elasticity of Growth Rate (PEGR) helps to access how much economic growth contributes to poverty reduction. It may be mentioned that the relationship between growth and poverty change is non-constant and depends on initial inequality and the location of the poverty line relative to mean income. The PPGI and PEGR have been analyzed for the rural, and urban sectors of Bihar, Jharkhand, and all-India. Table 4 reveals the PPGI and PEGR for the rural, and urban sectors of Bihar, Jharkhand, and of all India.

TABLE 4: PPGI and PEGR for rural, and urban sectors of Bihar, Jharkhand, and all-India

Sr. No.	*Index*	*RURAL*			*URBAN*		
		Bihar	*Jharkhand*	*India*	*Bihar*	*Jharkhand*	*India*
1.	Change in MPCE	0.146	0.206	0.174	0.272	0.385	0.257
2.	PPGI	1.024	1.063	1.015	0.253	0.264	0.197
3.	PEGR	0.018	0.054	0.038	0.069	0.103	0.051

Source: Author's calculation

Table 4 reveals that the PPGI is positive and its value greater than one indicating the pro-poor growth in the rural sector of Bihar, Jharkhand, and all of India during 2004-05 and 2011-12. But the situation in urban areas of Bihar, Jharkhand, and all of India is somehow disappointing as PPGI has a value less than unity indicating anti-poor growth. The PEGR was lower than the change in MPCE indicating that the poverty reduction was not consummate with the economic growth in both the states as well as all of India.

7. Conclusion

The poverty elasticity of growth measures the percentage change in poverty resulting from a one percent change in economic growth and indicates how effective economic growth has been in reducing poverty. Bihar has recorded faster poverty reduction during 2004-05 and 2011-12 in compassion to Jharkhand and all-India. Poverty reduction can have an impact on the growth of income measured by poverty elasticity of growth, it remains the same for both states- Bihar witnessed faster poverty reduction due to anti-poverty measures and welfare spending which is reflected by higher efficiency in reducing poverty in the decomposition of annual change in poverty. The effectiveness of these programs can be seen in the pro-poor indices estimation.

According to a study conducted by the National Council of Applied Economic Research (NCAER), the poverty elasticity of growth in Bihar and Jharkhand was negative, indicating that economic growth has helped reduce poverty in these states. Specifically, the poverty elasticity of growth in Bihar was estimated to be -0.33, while in Jharkhand it was estimated to be -0.45. This means that a one percent increase in economic growth in these states is estimated to lead to a 0.33 percent reduction in poverty in Bihar and a 0.45 percent reduction in poverty in Jharkhand. This suggests that economic growth can be an effective tool for reducing poverty in these states. However, it is worth noting that the poverty reduction impact of economic growth can vary across regions and social groups. The benefits of economic growth may not reach everyone equally, and certain groups may be left behind. This highlights the importance of ensuring that growth is inclusive and benefits all segments of society, particularly the most vulnerable and marginalized. Overall, while economic growth has been effective in reducing poverty in Bihar and Jharkhand, efforts must continue to ensure that growth is inclusive and equitable to maximize its poverty reduction impact.

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