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The Relationship between Economic Growth and Inequality: A Study Based On 61st Round of Nsso

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Abstract: *The well accepted goals of every modern society is economic development which emphasizing the social justice, there is no difference between nations be they rich or poor ,capitalistic or socialistic, believers in planning or otherwise. Even the urge for greater economic well being in individuals as in nations is not separable from the desire to secure for oneself that which is already given to others. At the same time , there exists a conflict and choice between these fundamental objectives. That is, a large amount of resources are appropriated by a handful of people while a large segments of the society are deprived of that.*

Keywords: *Income Inequality Economic Growth Gini Coefficient Kuznet's Inverted U*

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I. Introduction

India's economy continues to grow with its GDP rising faster than most nations. But a rise in national GDP is not indicative of income equality in the country. The growing income inequality in India has negatively impacted poor citizens' access to education and healthcare. Rising income inequality makes it difficult for the poor to climb up the economic and social ladder and increases their risk of being victims to poverty trap. People living at the bottom 10% are characterized by low wages; long working hours; lack of basic amenities such as first aid, drinking water and sanitation .Income inequality is the unequal distribution of household or individual income across the various participants in an economy. Income inequality is often presented as the percentage of income to a percentage of the population.

The simplest way to understand inequality is by analyzing the population by dividing it into quintiles (fifth) from poorest to richest and reporting the proportions of income held by them. Gini coefficient is the most popular measure of income inequality. In economics, the Gini coefficient, sometimes called Gini index, or Gini ratio, is a measure of statistical dispersion intended to represent the income or wealth distribution of a nation's residents, and is the most commonly used measurement of inequality. It was developed by the Italian statistician and sociologist Corrado Gini and published in his 1912 paper ''Variability and Mutability''. The Gini coefficient is derived from the Lorenz Curve. The Lorenz curve shows the percentage of total income earned by cumulative percentage of the population.

In a perfectly equal society, the "poorest" 25% of the population would earn 25% of the total income, the "poorest" 50% of the population would earn 50% of the total income and the Lorenz curve would follow the path of the 45° line of equality. As inequality increases, the Lorenz curve deviates from the line of equality; the "poorest" 25% of the population may earn 10% of the total income; the "poorest" 50% of the population may earn 20% of the total income and so on.

Now it becomes clear that inequality and GDP growth has some relation, but there is no common agreement regarding their actual relationship. Therefore, it is essential to find out nature of relationship between the two variables for adopting appropriate policy initiative by the government .Many researchers have been conducted studies in this field and some of them established co-integration and causal relationship between inequality and GDP and income distribution .Thus in this context this paper is trying to find out trend of inequality in India during the post independence period based on the NSSO Rounds (2016-17).

Economic growth is a cherished dream of any economy. Irrespective of nature of economy, ruling authority of all economies in the world has been trying to achieve higher levels of growth by adopting a variety of policy initiatives. We can see governments have been adopting various measures of monetary policies and fiscal policies to control inequality in the economy because they know that equal distribution of income among individuals will always leads to development of the economy. Thus changes in government's policy over time in accordance with changing income level and distribution, shows serious relationship between economic growth and income inequality. So, it is essential to find out the true relationship between inequality and GDP growth, which is a proxy for economic growth. This study can also be used to check the inequality in the distribution of income among individuals in India. Also to explore the impact of inequality on the economic growth of the Indian economy and to assess the pattern and trend of the inequality . Knowledge about the relationship between the inequality and economic growth is crucial for policy makers to adopt appropriate policy initiatives.Income

inequality is the unequal distribution of household or individual income across the various participants in an economy.

II. Objectives Of The Study

1. To assess the inequality in the distribution of income among individuals.
2. To explore the relationship between inequality and economic growth of Indian economy..

III. Methodology

This study mainly tries to find out the nature long run relationship between inequality and GDP growth in India along with measuring the income inequality among individuals. Income distribution among the individuals and Gini's ratio are taken as proxy for inequality and an analysis conducted over the post independence period, that is from 1970 to 2017 and the data for the analysis is obtained from the Handbook of Statistics of NSSO Rounds.

Before estimating the relationship between GDP and inequality, as the data being Time series it is essential to check whether the series is stationary or not, for that Augmented Dickey Fuller test was used . The Gini coefficient measures the inequality among values of a frequency distribution (for example, levels of income). A Gini coefficient of zero expresses perfect equality, where all values are the same (for example, where everyone has the same income). A Gini coefficient of 1 (or 100%) expresses maximal inequality among values (e.g., for a large number of people, where only one person has all the income or consumption, and all others have none, the Gini coefficient will be very nearly one). However, a value greater than one, may occur if some persons represent negative contribution to the total (for example, having negative income or wealth). For larger groups, values close to or above 1 are very unlikely in practice. Given the normalization of both the cumulative population and the cumulative share of income used to calculate the Gini coefficient, the measure is not highly sensitive to the specific of the income distribution, but rather only on how incomes vary relative to the other members of a population. The exception to this is in the redistribution of income resulting in a minimum income for all people. When the population is sorted, if their income distribution were to approximate a well-known function, then some representative values could be calculated.Assess the pattern and trend of the inequality in India by using the trend analysis and by plotting it against economic growth leads to the long run relationship.

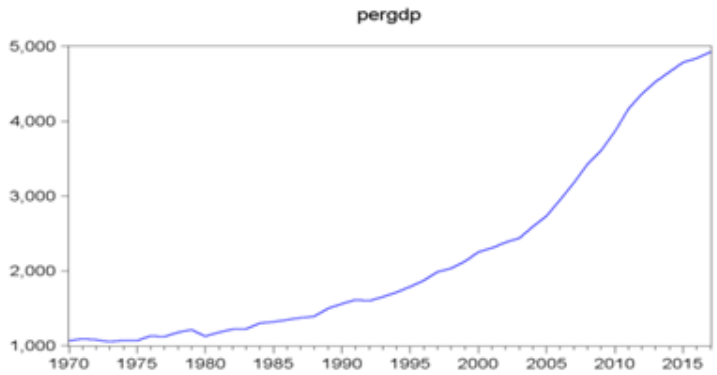
TABLE:

(Showing the relationship between economic growth and income inequality)

YEAR	GINI COEFFICIENT	PER CAPITA GDP CONSTANT PRICES
1971	0.304	1090
1972	0.299	1075
1973	0.301	1047
1970	0.303	1062
1974	0.302	1071
1975	0.316	1060
1976	0.338	1128
1977	0.345	1118
1978	0.334	1175
1979	0.331	1213
1980	0.335	1122
1981	0.331	1176
1982	0.328	1219
1983	0.325	1226
1984	0.33	1295
1985	0.332	1317
1986	0.334	1343
1987	0.334	1372
1988	0.336	1390

1989	0.338	1498
1990	0.341	1557
1991	0.344	1607
1992	0.342	1597
1993	0.34	1652
1994	0.34	1707
1995	0.342	1780
1996	0.338	1873
1997	0.336	1983
1998	0.339	2030
1999	0.341	2124
2000	0.343	2253
2001	0.345	2305
2002	0.347	2380
2003	0.348	2435
2004	0.349	2589
2005	0.351	2729
2006	0.353	2941
2007	0.358	3177
2008	0.363	3424
2009	0.367	3604
2010	0.371	3860
2011	0.368	4163
2012	0.365	4362
2013	0.369	4524
2014	0.372	4654
2015	0.376	4785
2016	0.379	4837
2017	0.384	4926

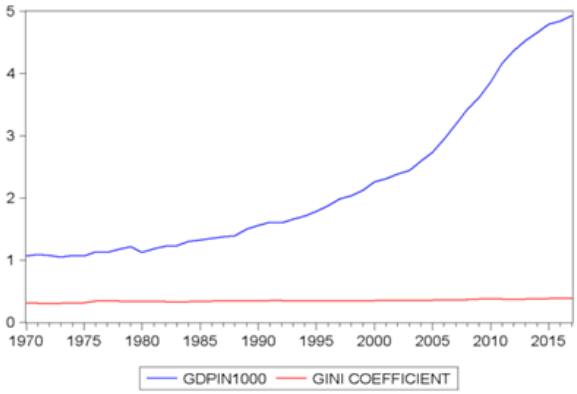
The variables included in the study are GDP at market price with the base year 2004-05. Various measures of income inequality using the Gini coefficient with the same base year. Details of these variables were collected for a period of 1970 to 2017.Data for the study is compiled from the Handbook of Statistics, NSSO Rounds. The Per Capita Gross Domestic Product of India is taken at constant prices.The trend line of which shows that India's GDP has been increasing over the period of study, that is from 1970 to 2017 period.



Now it is examined that what happens to GDP and Gini coefficient over the period. As the Gini coefficient measures the level of income inequality , it will provide correct idea about the income disparity in the economy. Thus comparison between GDP and economic inequality is made by using Gini coefficient as a proxy for economic inequality. So that Per Capita GDP can be converted into thousands and the Gini coefficient remained as same..

GINI COEFFICIENT

Gini coefficient as a true indicator of economic inequality and its trend analysis shows an increasing trend over period. As the value approaches to one, the inequality increases.



CORRELATION

Bivariate correlation is tested between GDP and Gini coefficient and the results are given in the Table 3.1.The major variables of this study are the GDP and Gini coefficients are the proxy for economic growth and inequality respectively.

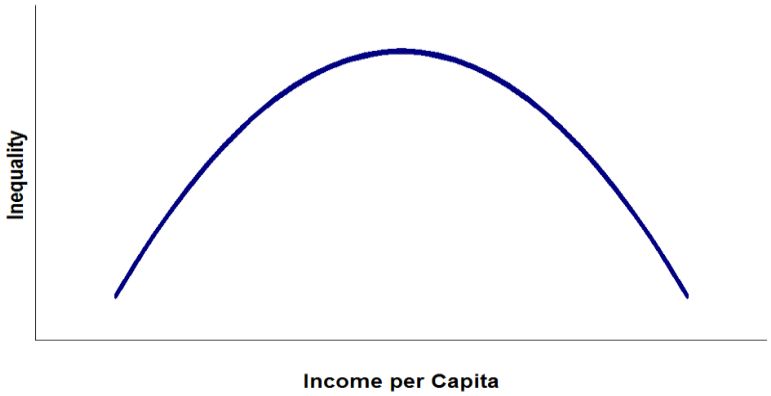
Covariance Analysis: Ordinary
Date: 04/16/19 Time: 03:47
Sample: 1970 2017
Included observations: 48

Correlation Probability	GINI_COEFFI	PER_CAPITA
GINI_COEFFICIENT	1.000000 -----	
PER_CAPITA_GDP_	0.884409 0.0000	1.000000 -----

STUDY SOURCE (:eviews version08)

KUZNET'S CURVE

Kuznets curve shows an inverted U curve, although variables along the axes are often mixed and matched, with inequality or the Gini coefficient on the Y axis and economic development, time or per-capita incomes on the X axis. Such a progression suggests that early in development, investment opportunities for those who have money multiply, while an influx of cheap rural labor to the cities holds down wages. Whereas in mature economies, human capital accrual (an estimate of cost that has been incurred but not yet paid) takes the place of physical capital accrual as the main source of growth; and inequality slows growth by lowering education levels because poorer and disadvantaged people lack finance for their education in imperfect credit-markets. At the early stages of growth the disparity in income among the individuals will also increase.



IV. Conclusion

GDP is an important indicator of economic growth. Even though there exist some other indicators, GDP is extensively used for analyzing economic growth of any economy. Like wise inequality tells about the disparity in the distribution of income in the economy.However the relationship between these two variables has been a matter of debate for many countries. Different economists have different views. Some argues that they are not related and no cause and effect relation. This relationship will also change in accordance with economic system prevailing in various economies. As the policymakers take decisions about various policies on the basis of this relationship, it is essential to analyze which type of relationship exists in Indian context. Therefore the study analysed what kind of relationship is existing between GDP and inequality in India. In this study per capita GDP at constant prices is taken into account along with various measures of inequality like Gini coefficient. Relationship between GDP and inequality is estimated by taking Gini coefficient as the proxy for inequality.

From the review of relevant literature it was found that both GDP and inequality were related .In India a study by Lucas Chancel and others found a unidirectional relationship between GDP and economic inequality. Thus there exists a long run relationship between variables under concern.

Per capita GDP at constant prices and Gini coefficient was used to estimate the model. The data was taken from the Handbook of Statistics of RBI. The period under the study was 1973 to 2017.

The data was first analysed for the trend and pattern by using trend analysis and both GDP and economic inequality were found to be positively trended and they were correlated positively. When analysing the relationship state wise, it also found to be positively correlated. By plotting the relationship against GDP and inequality shows the first stage in the Inverted 'U' as in the Kuznet's curve. As India is a developing country the economic growth will always carry forward economic inequality and remains in the beginning stage of the Simon Kuznet's Inverted 'U'.

The major findings are,the inequality in the distribution of income among individuals shows a positive trend over the period .The economic inequality and the economic growth of the Indian economy are related and shows positive correlation, in the 61st round of NSSO (2016-17).India as a the developing country it possess the beginning stage of the Kuznet's Inverted 'U' that is the gap between the income distribution increases as the economy develops, and the inequality and economic growth shows positive correlation.

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