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INTRODUCTION

REVIEW OF LITERATURE

NEED/IMPORTANCE OF THE STUDY

STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESES

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

CONCLUSIONS

SCOPE FOR FURTHER RESEARCH

ACKNOWLEDGMENTS

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APPENDIX/ANNEXURE

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POPULATION AND REGIONAL INEQUALITY IN INDIA

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ABSTRACT

Regional Inequalities, namely per capita income inequalities across states are a matter of serous concern in India. Regional disparities has been rising in India since 1993, which is revealed by the fact that Gini-coefficient in this connection has risen from .240 in 1993-94 to .277 in 2009-10 and it was noted highest .285 in 2002-03. Ahluwalia (2002) also highlighted the trend of increasing inequality among states by using per capita state domestic product data for the period 1980-81 to 1998-99. This paper aims to determine whether regional disparities are linked to population in twenty five states and four union territories of India over the period 1993-94 to 2009-10. The paper highlighted that there was a sharp increase in regional inequalities in India during the last decade of twentieth century and first decade of twenty first century. In 2009-10, the per capita Net State Domestic Product (NSDP) of the richest state, Gujarat, was about 8.55 times that of Bihar, the poorest state. This ratio had increased from 7.58 in 1993-94. Disparity in total NSDP during this period has widen as per annum growth for relatively developed states like Gujarat (14.26%), Haryana (13.39%), Maharashtra (12.12%) has been found higher than poor states like Assam (4.52%), M.P. (6.65%) and Jharkhand (7.05%). Similarly, Per annum growth in per capita NSDP were found lower for EAG states like as Assam (2.29%), U.P. (2.99%), M.P. (3.27%) and Jharkhand (3.41%) as compared to developed states like Haryana (9.25%), Uttarakhand (8.98%), Kerala (8.60%), Maharashtra (7.74%), Himachal Pradesh (7.74%). More interestingly, Rajasthan, Bihar and even Gujarat have not done well in the growth of per annum per capita NSDP due to high population growth in spite of high per annum growth in total NSDP in this period. Significant to mention that per annum growth in per capita NSDP is higher in lower per annum population growth states as Andhra Pradesh (8.03) and Jammu & Kashmir (7.14%) (Due to negative annual population growth) Kerala (8.60%) and Tamil Nadu (8.81%) with lower than one percent annual population growth rate in this period.

KEYWORDS
Gini, India, OLS, Population, regional inequality.

INTRODUCTION
Population of a country constitutes human resources of that country. Large size of population and its fast growth in developing country like India provides a large human resource base and a very fast growth in developing countries like India provides a large number of human resource bases and a very large increase in it takes place every year. The large human resource is the source of large potential labour force which can de both a sources of strength as well as a source of weakness. If fully and efficiently utilised, it can massive productive asset for the country. If underutilized, it becomes a constraint on the country's progress. Labour alone cannot produce anything. For production, besides labour other resources are also required such as natural resources and capital. For absorbing the large and fast increasing labour force more and more of other resources are also needed. The regional disparity in India is now a matter of serious concern. It is well known that in a large economy, different regions with different resource bases especially human resource bases and endowments would have a dissimilar growth path over time.

REVIEW OF LITERATURE
In India, Regional Inequalities, namely per capita income inequalities across states are a matter of serous concern before policy makers and planners. Regional disparities has been rising in India since 1993, which is revealed by the fact that Gini-coefficient in this connection has risen from .240 in 1993-94 to .277 in 2009-10 and it was noted highest .285 in 2002-03. Ahluwalia (2002) also highlighted the trend of increasing inequality among states by using per capita state domestic product data for the period 1980-81 to 1998-99. Bhattachary and Sakthiwal (2004) in their paper entitled, "Regional Growth and Disparity in India – Comparison of Pre and Post Reform Decades", have observed that growth rate of gross domestic product has improved only marginally in the post reform decade, the regional disparity in state domestic product has widened much more drastically. Industrial states have grown much faster than the backward states, and there is no evidence of convergence of growth rates among states. Even more disturbing is that there is now an inverse relationship between population growth and SDP growth. The inverse relationship is stronger for per capita income growth among states.
The World Bank (2006) in its report entitled, "India – Inclusive Growth and Service delivery: Building on India's Success" has observed sharp differentiation across states since the early 1990s reflects acceleration of growth in some states but deceleration in others. The report further adds that more worryingly, growth failed to pick up in states such as Bihar, Orissa and Uttar Pradesh that were initially poor to start with, with the result that the gap in performance between India's rich and poor states widened dramatically during the 1990s. An approach to the 11th Five Year Plan (Planning Commission, Government of India, 2006) has also acknowledged regional backwardness as an issue of concern. The differences across states have long been a cause of concern and therefore, we cannot let large parts of the country be trapped in a prison of discontent, injustice and frustration that will only breed extremism. The World Bank (2008) in its recent release "The Growth Report Strategies for Sustained Growth and Inclusive Development" has mentioned that disparity in income distribution in India has risen during 1993-2005. The report (pp.125-126) further adds that Gini-Coefficient in this connection stood at 0.3152 during 1993-94 which increased later on and was recorded at 0.3676 in the year 2004-05. Similarly, Gaur A.K. (2010) found that Gini ratio stood at 0.4409 during 1980-81 have risen, however moderately, and stood at 0.4558 in 2001-02.

OBJECTIVES
This paper aims to determine whether regional disparities are linked to population in twenty five states and four union territories of India over the period 1993-94 to 2009-10.

RESEARCH METHODOLOGY
Data on total as well as per capita net state domestic product (NSDP) at factor cost (At constant prices) for the period 1993-94 to 2009-10 has been taken from central statistics office (CSO) website. It is significant to mention that state income and per capita income have their limitations in any study of inter-state comparison (Bhatacharya and Sakthival 2004). Inter-state comparison of NSDP is also hampered by the quality of statistics provided by different states and the CSO has revised the base year from 1993-94 to 2004-05. The modifications in the new NSDP series have done in terms of price, production boundaries for many sectors etc. and hence any comparison of inter-state income levels and growth rate based on 1993-94 base series up to 2004-0 base series may not yield correct picture. In view of this, an important task before analyzing the trends in income disparities is to evolve a comparable income series with a single base year. This has been done through the technique of base sifting (Gaur A.K. 2010). State income are available from 1993-94 to 1999-00 at 1993-94 base, 1999-00 to 2004-05 at 1999-2000 base and later on it is available at 2004-05 base year. Thus, in order to evolve a comparable NSDP with a single base year, technique of base sifting has been applied for NSDP and per capita NSDP data from 1993-94 to 2003-04 has been converted at the base 2004-05. The paper highlighted that there was a sharp increase in regional inequalities in India during the study period.

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Pooled OLS regression models have been used to find conclusions in this paper. As it is well known, the quantile regression technique is a means of allowing estimated marginal effects to differ at different points of the conditional distribution of the dependent variable. Quantile regressions were initially developed as a robust regression technique that would allow for estimation where the typical assumption of normality of the error term might not be strictly satisfied (Koenker and Bassett 1978). However, they are now used extensively to analyze the relationship between dependant and independent variables over the entire distribution of the dependant variable-not just at the conditional mean (Buchinsky and Eide 1994). Appropriate diagnostic tests have also been performed in checking accuracy of the models. SPSS vs. 17 and gretl vs. 1.9.5 software were used for database, figure constructions and regression analysis.

RESULTS & DISCUSSION

The paper highlighted that there was a sharp increase in regional inequalities in India during the last decade of twentieth century and first decade of twenty first century. In 2009-10, the per capita Net State Domestic Product (NSDP) of the richest state, Gujarat, was about 8.55 times that of Bihar, the poorest state. A time series graph of this ratio shows that the disparity between the richest and poorest state shot up remarkably during the 1993-94 to 2009-10. Figure 1 shows that disparity ratio was highest (10.98) in 1999-2000 and lowest (7.14) in 1994-95.This ratio had increased from 7.58 in 1993-94. One more interesting conclusion, which can be drawn form the figure, is that there is a clear sign of reducing disparity ratio after 2006-07. Regional disparities has been rising in India since 1993, which is revealed by the fact that Gini-coefficient in this connection has risen from .240 in 1993-94 to .277 in 2009-10 and it was noted highest .285 in 2002-03. The link between inequality and average well-being for two sector economy is known as per Kuznets hypothesis (1955, 1963) which maintains that given a two–sector economy with not too distinct degrees sectoral mean incomes, a perennial shift of population from one sector to another will initially raise aggregate inequality and it will decrease at later stage. This formulation has been labeled as the "Inverted U" (I-U)[1] hypothesis or Kuznets Cycle (Branlke, 1983).Here, Indian inequality coefficient is showing that it has been become flatter while declining where as it should be downward in accordance to Kuznets hypothesis.

REGIONAL DISPARITIES IN GROWTH OF NSDP

NSDP growth rates have shown a fair degree of variation. While some states have witnessed rapid and phenomenal growth, the rest continuously lagged behind in comparison to others. For this we have included 25 major states and four union territories. Mizoram and Nagaland are excluded because of non availability of time series data. The comparative average annual growth rates of NSDP for twenty states and four union territories at 2004-05 prices for 1993-94 and 2009-10 are given in table 1. Disparity in total NSDP during this period has widen as per annum growth for relatively developed and industrialized states like Gujarat (14.26%), Haryana (13.39%), Maharashtra (12.12%) has been found higher than poor states like Assam (4.52%), M.P. (6.65%) and Jharkhand (7.05%). Goa, a small state, also grew at over 12 percent growth. Figure 3 show that Union territories, Chandigarh, Puducherry and Delhi are ahead in growth of NSDP. Among other major states, Tripura, Uttarakhand, Himachal Pradesh, Rajasthan, Karnataka, West Bengal, Kerala, Sikkim have also performed very well with over 10 percent growth.

 It is also interesting to note that West Bengal which is not considered to be a pro market state has grown faster than fifteen states, in which some pro-reform states, such as Andhra Pradesh and Punjab are also included. The poor performance of both Punjab and Andhra Pradesh during the reform era came as surprise. These states have comparatively better infrastructure and known to have pro market attitude. While Punjab's slow growth may be attributed to stagnation in agriculture and fiscal mismanagement, and that of Andhra Pradesh need a careful scrutiny. A detailed study on Andhra Pradesh (Rao and Mahendra Dev, 2003) also confirms this. On the other hand, poor states like, Assam, Madhya Pradesh, Jammu & Kashmir, Jharkhand Chhattisgarh and Orissa have attracted less foreign capital (and also probably domestic) and performed badly, with NSDP growth below 9 percent per annum. Apart from lack of investment, poor infrastructure combined with poor governance (and terrorism in case of Assam, Jammu & Kashmir) might have also restrained growth in these states.

TABLE 1: AVERAGE GROWTH RATE OF NSDP AT CONSTANT PRICES 2004-05 (Crore)

S.N.	State	1993-94[1]	2009-10[2]	Difference	AAGR*
1	Andhra Pradesh	147584	304018	156434	6.24
2	Arunachal Pradesh	1808	4845	3037	9.88
3	Assam	34431	60912	26481	4.52
4	Bihar	41964	110778	68814	9.65
5	Goa	5301	16590	11289	12.53
6	Gujarat	82898	283930	201032	14.26
7	Haryana	41880	137201	95321	13.39
8	Himachal Pradesh	9929	28756	18827	11.15
9	Jammu & Kashmir	14157	30765	16608	6.90
10	Jharkhand	31975	70309	38334	7.05
11	Karnataka	79822	219358	139536	10.28
12	Kerala	56630	159144	102514	10.65
13	Madhya Pradesh	65359	139300	73941	6.65
14	Chhattisgarh	27879	63297	35418	7.47
15	Maharashtra	207423	634829	427406	12.12
16	Meghalaya	2844	7645	4801	9.93
17	Orissa	39168	97359	58191	8.74
18	Punjab	55310	124116	68806	7.32
19	Rajasthan	57472	156952	99480	10.18
20	Sikkim	752	2175	1423	11.14
21	Tamil Nadu	18741	46823	28082	8.81
22	Tripura	3538	11917	8379	13.93
23	Uttar Pradesh	16277	41126	24849	8.98
24	Uttarakhand	12069	40065	27996	13.65
25	West Bengal	96475	269454	172979	10.55
26	Andaman & Nicobar	1011	2599	1588	9.23
27	Chandigarh	2656	12418	9762	21.62
28	Delhi	42072	157817	115745	16.18
29	Puducherry	1888	7977	6089	18.97

Source: Central Statistical Office (CSO) Website as on 08.03.11

Difference = NSDP[2] – NSDP[1]

* Average Annual Growth Rate = (NSDP[2] – NSDP[1])* 100/17*NSDP[1]

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REGIONAL DISPARITIES IN GROWTH OF PER CAPITA NSDP

For a better analysis of regional disparities, we should analyze not merely aggregate growth rate but also the growth of Per Capita NSDP. The average annual growth of per capita NSDP for twenty five states along with four union territories is presented in Table 2. It may be seen that the regional disparities in standard of living, as measured by per capita NSDP at constant prices have widened during 1993-94 o 2009-10. Assam recorded the lowest per capita NSDP at 2.29 percent per annum and Puducherry the highest at 12.54 percent. During this period, Per annum growth in per capita NSDP were found lower for EAG states like as Assam (2.29%), U.P. (2.99%), M.P. (3.27%) and Jharkhand (3.41%) as compared to developed states like Haryana (9.25%), Uttarakhand (8.98%), Kerala (8.60%), Maharashtra (7.74%), Himachal Pradesh (7.74%). The main reason for this could be the comparatively higher growth of population in these states. While the standard of living improved faster in Haryana, Uttarakhand, Tamil Nadu and Kerala, the opposite happened in Assam, Uttar Pradesh, Madhya Pradesh, Jharkhand, Punjab, Goa and Chhattisgarh. Bihar and Rajasthan are not doing well in spite of a fairly high NSDP.

TABLE 2: AVERAGE GROWTH RATE OF PER CAPITA NSDP AT CONSTANT PRICES (Rs.)

S.N.	State	1993-94[1]	2009-10[2]	Difference	AAGR
1	Andhra Pradesh	15364	36345	20981	8.03
2	Arunachal Pradesh	19380	39679	20299.33	6.16
3	Assam	14601	20279	5678.221	2.29
4	Bihar	6134	11558	5423.581	5.20
5	Goa	13535	22780	9244.775	4.02
6	Gujarat	46474	98807	52332.76	6.62
7	Haryana	19060	49030	29970.19	9.25
8	Himachal Pradesh	23838	55214	31376.29	7.74
9	Jammu & Kashmir	18385	40690	22304.75	7.14
10	Jharkhand	16928	26739	9810.551	3.41
11	Karnataka	16947	37464	20517.13	7.12
12	Kerala	18897	46511	27614.19	8.60
13	Madhya Pradesh	12687	19736	7048.74	3.27
14	Chhattisgarh	14989	25835	10846.5	4.26
15	Maharashtra	24807	57458	32651.48	7.74
16	Meghalaya	14874	29656	14782.2	5.85
17	Orissa	11826	24098	12272.39	6.10
18	Punjab	25974	43539	17565.39	3.98
19	Rajasthan	12255	23669	11413.54	5.48
20	Sikkim	17495	36075	18580.37	6.25
21	Tamil Nadu	18741	46823	28082.43	8.81
22	Tripura	12066	33503	21436.99	10.45
23	Uttar Pradesh	10723	16182	5459.032	2.99
24	Uttarakhand	16277	41126	24848.82	8.98
25	West Bengal	13472	30504	17032.2	7.44
26	Andaman & Nicobar	35788	54830	19042.38	3.13
27	Chandigarh	38187	90051	51863.77	7.99
28	Delhi	40148	89037	48889.17	7.16
29	Puducherry	22259	69704	47444.57	12.54

Source: Central Statistical Office (CSO) Website as on 08.03.11

Difference = $PCNSDP^2 - PCNSDP^1$

*Per Capita Average Annual Growth Rate = $(PCNSDP^2 - PCNSDP^1) * 100/17 * PCNSDP^1$

In general, the poor states – notably, Bihar, Jharkhand and Uttar Pradesh with faster population growth have performed badly in terms of Per capita NSDP growth. It may be therefore worth investigation the relationship between NSDP growth and population growth at the state level. Table 3 shows average annual population growth rate during the study period. More interestingly, Rajasthan, Bihar and even Gujarat have not done well in the growth of per annum per capita NSDP due to high population growth in spite of high per annum growth in total NSDP in this period. Significant to mention that per annum growth in per capita NSDP is higher in lower per annum population growth states as Andhra Pradesh (8.03) and Jammu & Kashmir (7.14%) (Due to negative annual population growth) Kerala (8.60%) and Tamil Nadu (8.81%) with lower than one percent annual population growth rate in this period.

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TABLE 3: AVERAGE ANNUAL POPULATION GROWTH RATE (Thousand)

S.N.	State	1993-94[1]	2009-10[2]	Difference	AAPGR.
1	Andhra Pradesh	96058	83648	-12410	-0.76
2	Arunachal Pradesh	933	1221	288	1.82
3	Assam	23581.76	30036.98	6455	1.61
4	Bihar	68407	95845	27439	2.36
5	Goa	3916.232	7282.704	3366	5.06
6	Gujarat	17837	28736	10898	3.59
7	Haryana	21972.9	27983.07	6010	1.61
8	Himachal Pradesh	4165.062	5208.099	1043	1.47
9	Jammu & Kashmir	7700.222	7560.826	-139	-0.11
10	Jharkhand	18889	26295	7406	2.31
11	Karnataka	47101.08	58551.68	11451	1.43
12	Kerala	29967.85	34216.42	4249	0.83
13	Madhya Pradesh	51515.51	70581.68	19066	2.18
14	Chhattisgarh	18600.25	24500.48	5900	1.87
15	Maharashtra	83616.32	110485.7	26869	1.89
16	Meghalaya	1911.918	2577.893	666	2.05
17	Orissa	33121.29	40401.28	7280	1.29
18	Punjab	21295	28507	7212	1.99
19	Rajasthan	46894.78	66311.21	19416	2.44
20	Sikkim	429.6127	602.9106	173	2.37
21	Tamil Nadu	57875.96	66836.38	8960	0.91
22	Tripura	2932.009	3556.995	625	1.25
23	Uttar Pradesh	143504	195838.6	52335	2.15
24	Uttarakhand	7414.523	9742.012	2327	1.85
25	West Bengal	71612.34	88333.99	16722	1.37
26	Andaman & Nicobar	282.6125	474.0106	191	3.98
27	Chandigarh	695.5562	1378.996	683	5.78
28	Delhi	10479.35	17724.88	7246	4.07
29	Puducherry	848.1021	1144.411	296	2.06

HAVE POPULATION GROWTH CAUSED REGIONAL INEQUALITY?

Bhattacharya and Sakthivel (2oo4) have observed inverse relationship between per capita SDP growth and population growth. The correlation coefficient between population growth rate and per capita SDP growth, which was -0.22 in 1980s, shots up to -0.39 in 1990s. In my analysis it also remained -0.25 for all twenty five states and four UT's. If we divide it in four categories less than 1 % population growth rate, great than one and less that two, great than 2 and less than 3 and great than three than their correlation remained +0.66, -0.37, -0.33 and +0.25 respectively. This analysis increases our interest to find an econometric relationship between two. First we plot four figures showing relationship between these two. Figure 7 (A) and (D) showing fast growing states with lower population growth rate than one percent per annum and higher population growth rate than 3 percent per annum. But the states which have population growth in between 1% to 3% are facing inverse relationship with per capita NSDP during the study period.

Estimated OLS results for NSDP and per capita NSDP with regional dummy variables in linear (Table 4) and log linear specifications (Table 5) confirms that though population is positively and significantly associated with NSDP but it has significant and negative association with per capita NSDP in twenty five states and four union territories of India during 1993-94 to 2009-10. It also discloses that three western states (Gujarat, Maharashtra and Goa) have highest positive impact on NSDP and Per capita NSDP of India. It is followed by northern and southern states. In the northern states we have included Uttar Pradesh, Madhya Pradesh, Rajasthan, Haryana, Punjab, Uttarakhand, Himachal Pradesh, Jammu & Kashmir, Chandigarh and Delhi. In the eastern states West Bengal, Bihar, Orissa, Chhattisgarh and Jharkhand have been included where as in southern states Andhra Pradesh, Tamil Nadu, Karnataka, Tripura and Kerala have been included. Assam, Meghalaya, Arunachal Pradesh and Sikkim have been included in northern – eastern states. We use dummy variable for five regions, ones were given to those states which have been included in concerning region and otherwise.

TABLE 4: ESTIMATION OF POOLED OLS MODELS FOR INDIA, 1993-94 TO 2009-10

Dependent Variable	NSDPfc		Per Capita NSDPfc	
Independent Variables	coefficient	t-ratio	coefficient	t-ratio
const	101.750	-0.0167	**22693.7**	13.09
POPULATION	**1.72263**	28.58	**-0.14937**	-8.668
Dummy Western States	**101697**	10.75	**24303.5**	8.988
Dummy Northern States	8172.57	1.109	**14641.3**	6.949
Dummy Eastern States	-8704.29	-1.027	1027.03	0.4236
Dummy Southern States	**30966.9**	3.999	**13332.1**	6.022
R-squared	0.698395		0.293674	
Adjusted R^2	0.695298		0.286422	
Observations	493		493	
Durbin - Watson	2.09		1.67	

Omitted due to exact collinearity: Dummy Northern- Eastern States. Bold value shows significant at 1% level.

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TABLE 5: ESTIMATION OF POOLED OLS MODELS FOR INDIA, 1993-94 TO 2009-10

Independent Variables	l_NSDPfc		l_PCNSDPfc	
	coefficient	t-ratio	coefficient	t-ratio
const	**1.72983**	15.17	**10.9401**	95.92
l_POPULATION	**0.872182**	67.04	**-0.127817**	-9.825
Dummy Western States	**0.770623**	9.083	**0.770633**	9.083
Dummy Northern States	**0.514529**	7.730	**0.514540**	7.730
Dummy Eastern States	0.045791	0.579	0.0457979	0.5792
Dummy Southern States	**0.498272**	7.328	**0.498270**	7.328
R-squared	0.927854		0.352751	
Adjusted R^2	0.927113		0.346106	
Observations	493		493	
Durbin - Watson	2.069		2.069	

Omitted due to exact collinearity: Dummy Northern- Eastern States. Bold value shows significant at 10% level.

Results of quantile regression have been reported in Table 5. They indicate that population in all the states of India have significant negative association with per capita income at all quantiles. The highest negative impact of population was recorded at 0.75 quantile. At 0.05 quantile, the estimated effect of western states (Dummy of Western States) is insignificant, but on higher quantiles it is successively higher significant positive association with per capita NSDP. For northern and southern states dummy it is also successively higher significant positive association at all level of distribution of population, but situation is different for eastern states, it is negative on lowest quantile and positive on highest quantile.

TABLE 6: RESULTS FROM THE SIMULTANEOUS QUANTILE REGRESION

Independent Variable	0.05 Coef. (t-ratio)	0.25 Coef. (t-ratio	0.5 Coef. (t-ratio	0.75 Coef. (t-ratio	0.95 Coef. (t-ratio
const	**10.449** (120.6)	**10.74** (98.10)	**10.99** (90.06)	**11.29** (75.65)	**11.356** (58.37)
l_POPULATION	**-0.11011** (-11.14)	**-0.125** (-10.02)	**-0.137** (-9.874)	**-0.151** (-8.875)	**-0.134** (-6.077)
WEST	0.00193 (0.03005)	**0.14** (1.719)	**0.9198** (10.12)	**1.298** (11.69)	**1.3903** (9.607)
NORTH	**0.229710** (4.542)	**0.3068** (4.802)	**0.509** (7.142)	**0.669** (7.68)	**0.9712** (8.554)
EAST	**-0.413956** (-6.890)	0.0488 (0.643)	0.124 (1.476)	**0.23** (2.225)	**0.2511** (1.862)
SOUTH	**0.126509** (2.449)	**0.470** (7.205)	**0.539** (7.406)	**0.603** (6.775)	**0.7109** (6.130)

CONCLUSIONS

The paper highlighted that there was a sharp increase in regional inequalities in India during the last decade of twentieth century and first decade of twenty first century. In 2009-10, the per capita Net State Domestic Product (NSDP) of the richest state, Gujarat, was about 8.55 times that of Bihar, the poorest state. Regional disparities has been rising in India since 1993, which is revealed by the fact that Gini-coefficient in this connection has risen from .240 in 1993-94 to .277 in 2009-10 and it was noted highest .285 in 2002-03.

Disparity in total NSDP during this period has widen as per annum growth for relatively developed and industrialized states like Gujarat (14.26%), Haryana (13.39%), Maharashtra (12.12%) has been found higher than poor states like Assam (4.52%), M.P. (6.65%) and Jharkhand (7.05%). Goa, a small state, also grew at over 12 percent growth. Figure 3 show that Union territories, Chandigarh, Puducherry and Delhi are ahead in growth of NSDP. Among other major states, Tripura, Uttarakhand, Himachal Pradesh, Rajasthan, Karnataka, West Bengal, Kerala, Sikkim have also performed very well with over 10 percent growth.

Assam recorded the lowest per capita NSDP at 2.29 percent per annum and Puducherry the highest at 12.54 percent. During this period, Per annum growth in per capita NSDP were found lower for EAG states like as Assam (2.29%), U.P. (2.99%), M.P. (3.27%) and Jharkhand (3.41%) as compared to developed states like Haryana (9.25%), Uttarakhand (8.98%), Kerala (8.60%), Maharashtra (7.74%), Himachal Pradesh (7.74%). The main reason for this could be the comparatively higher growth of population in these states. While the standard of living improved faster in Haryana, Uttarakhand, Tamil Nadu and Kerala, the opposite happened in Assam, Uttar Pradesh, Madhya Pradesh, Jharkhand, Punjab, Goa and Chhattisgarh. Bihar and Rajasthan are not doing well in spite of a fairly high NSDP.

Estimated OLS results for NSDP and per capita NSDP with regional dummy variables in linear and log linear specifications confirms that though population is positively and significantly associated with NSDP but it has significant and negative association with per capita NSDP in twenty five states and four union territories of India during 1993-94 to 2009-10. It also discloses that three western states (Gujarat, Maharashtra and Goa) have highest positive impact on NSDP and Per capita NSDP of India.

Results of quantile regression indicate that population in all the states of India have significant negative association with per capita income at all quantiles. The highest negative impact of population was recorded at 0.75 quantile. At 0.05 quantile, the estimated effect of western states (Dummy of Western States) is insignificant, but on higher quantiles it is successively higher significant positive association with per capita NSDP. For northern and southern states dummy it is also successively higher significant positive association at all level of distribution of population, but situation is different for eastern states, it is negative on lowest quantile and positive on highest quantile.

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APPENDIX

FIGURE 1: RATIO OF PER CAPITA NET STATE DOMESTIC PRODUCT OF THE RICHEST (GUJARAT) AND THE POOREST (BIHAR) STATE OF INDIA, 1993-2010
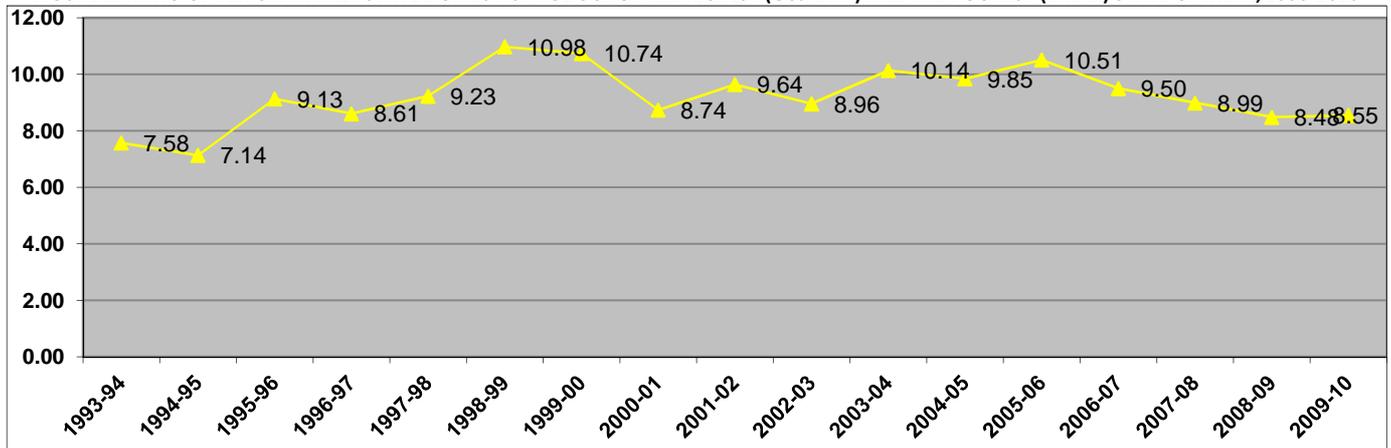
FIGURE 2: TREND IN INTER-STATE INEQUALITY BY GINI COEFFICIENT

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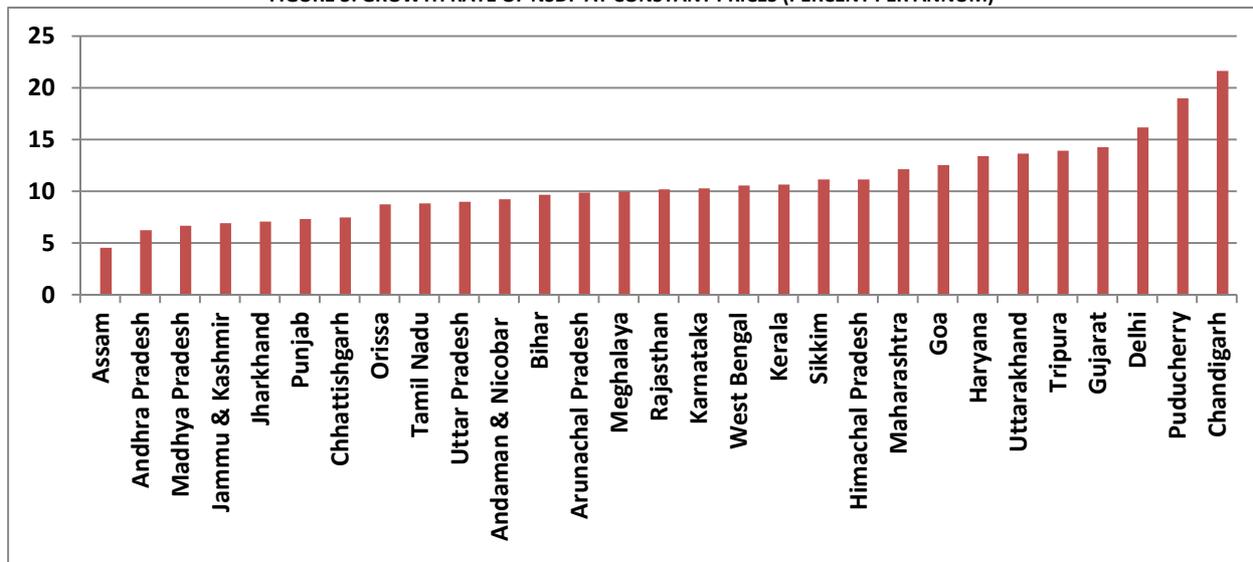
FIGURE 3: GROWTH RATE OF NSDP AT CONSTANT PRICES (PERCENT PER ANNUM)

FIGURE 4: GROWTH RATE OF PCNSDP AT CONSTANT PRICES (PERCENT PER ANNUM)

FIGURE 5: GROWTH RATE OF POPULATION (PERCENT PER ANNUM)

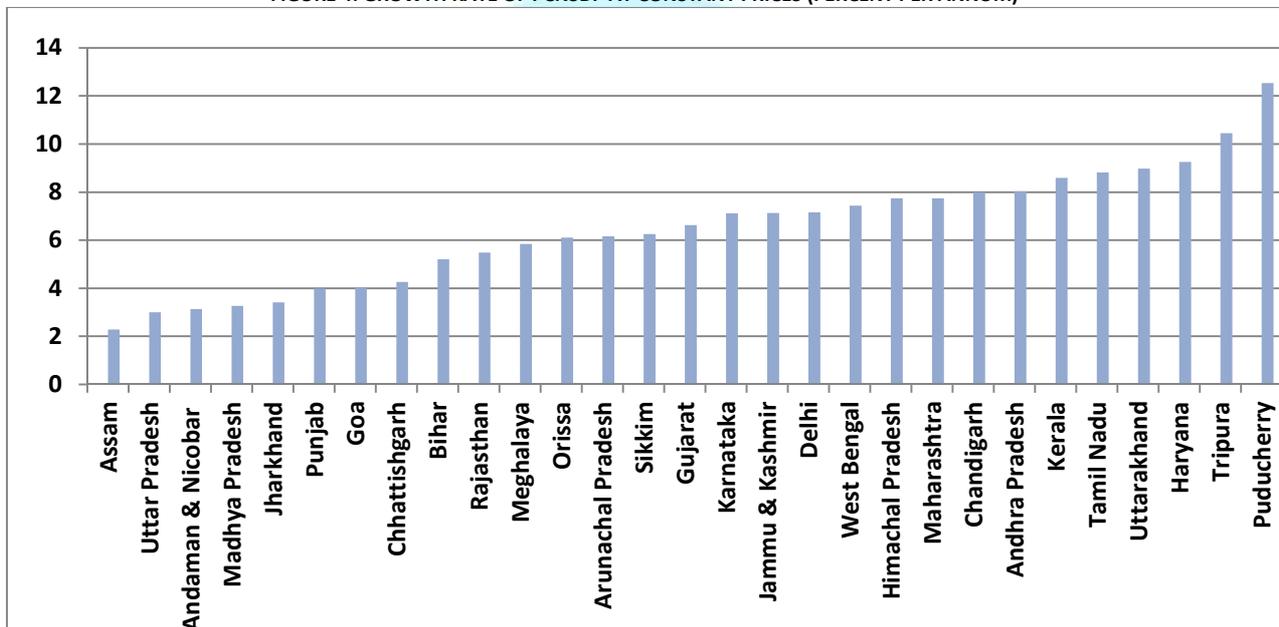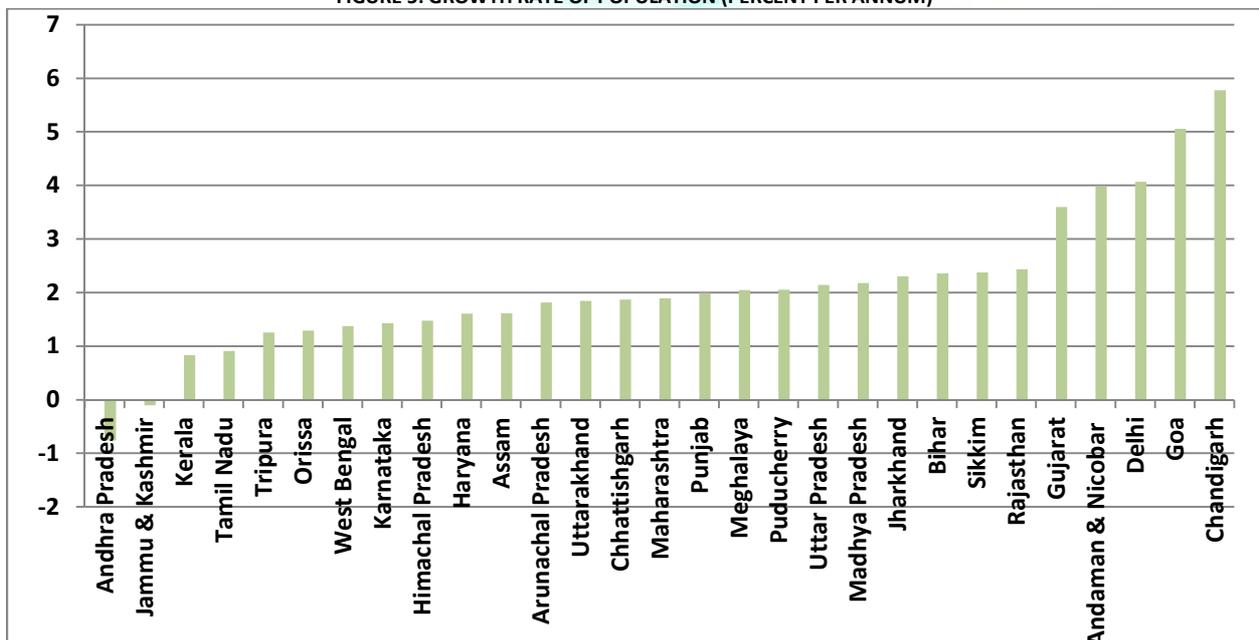INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT
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