GROWTH AND DEVELOPMENT: THE INDIAN EXPERIENCE

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Abstract

Debate over Growth and Development are quite old in the history of economic thinking. It is argued that development encompasses comprehensive issues like health, education, equality, and liveability while growth is too narrow a concept. This paper analyses the growth and development experience in India using multiple indicators. Development seems to have lagged behind growth in recent times. Disparity seems to have increased in the post-reform period, caused mainly by further slowing down of low-income states. Imbalances seem to have percolated across economic groups also. This leads us to believe that the remarkable growth that has occurred recently has not been egalitarian and hence development has failed to keep pace with it. Important reasons behind this may be imbalances in Infrastructural facilities and Public Investment, as well as differences in governance. Still, developmental level seems to be higher in the high growth regions, indicating the necessity of the latter for the former.

Keywords: Growth, Development, Regional Disparity, Reforms, Inequality, India.
JEL Classification: E65, O11, O18, O47, O53, R11, R12.

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I. INTRODUCTION

Issues concerning the similarities and the differences between Growth and Development are quite old in the history of economic thinking. It has been argued often that while growth is too narrow a concept, what matters is development, the latter encompassing much more comprehensive issues like health, education, equality, and liveability. In fact, the primary objective of almost all the nations in this world has been development. In addition, in present days, intentions have transgressed the boundaries of economic development only, and refer to a holistic dimension of development – economic, social, and human. In this regard, it has been often perceived that the experiences of economies in terms of growth and that in terms of development have not matched – high growth nations failing to 'develop' while low growth nations managing to do so. Such dichotomy is expected, as the definitions of growth and development are themselves divergent. While growth generally refers to a rise in macroeconomic variables of a country, specifically that of GDP or Per Capita Income (PCI), development is defined as an overall improvement in the living standards of the masses. Growth thus refers to numbers, but development is more tangible, manifesting itself in the form of higher consumption, life expectancy, literacy, access to amenities, and lower morbidity, inequality, and poverty. However, it has sometimes also been argued (see, for example, Lucas, 1988) that though PCI does not capture all facets of development, it propels the latter, and factors like health, education, life expectancy, liveability, equality, etc follows the same pattern as exhibited by PCI. A more accommodating view may then be that while development is the 'end', growth is the means to achieve those ends. Small changes in rates of growth over a longish period lead to significant changes in living standards. The connection between them is however is quite complex and one does not always go hand in hand with the other. In this paper we try to explore this interlinkage between growth and development in India. While India shed away the 'Hindu Rate of Growth' in the eighties and a moderately high growth has been achieved ever since, how far it has resulted in broad-based upliftment of economic, human, and social development levels needs to be examined.

II. METHODOLOGY

Any study that attempts to study such a broad aspect of growth and socio-economic development, over so vast a space as of India must be careful about, and give serious thoughts to the two very important aspects of Choice of variables or indicators, and, the Method of combining them into indices.

In recent years, perhaps, the most comprehensive and extensive work on growth in India has been that of Mathur (2000), wherein he has covered, in one long sweep, the issues of National and Regional Growth experiences in India from 1950-51 to 1996-97, and in some cases up to 2000. The paper also looks into growth at the Sub-sectoral level and tries to find out which sector has been the 'Engine of Growth' in India. As a result, he has been able to bring out the different trends exhibited by the three sub-sectors regarding regional disparity in growth, as also the diverse trends perceived in the four decades. Others who have looked into growth performances in post-reform India and the trends in regional disparity have been Ahluwalia (2000), Bajpai and Sachs (1999), and Shand and Bhide (2000).

In all these papers, growth has been conventionally measured by rise in Per Capita Gross Domestic Product (PCGDP) or PCI. In this paper we use this conventional measure as well as rise in sectoral income levels as indicators of growth. The indicators are therefore PCI, Per Capita Primary Sector Output (PCPSO), Per Capita Secondary Sector Output (PCSSO), and Per Capita Tertiary Sector Output (PCTSO).

As against this unidimensional approach towards growth, in the present study, a diversified view of development is taken where the multidimensional facet of development is sought to be adequately reflected. It is argued that a region cannot be so easily termed underdeveloped based only on its income levels. There are various facets of development, and a region, while lacking in one, may be well developed in another. Consequently, Development is thought to be consisting of three constituent components of -

1. Agricultural Development - related mainly to the Agricultural sector;
2. Industrial Development - related mainly to the Manufacturing sector; and
3. Human Development - related to the Social Indicators of literacy, mortality, school enrolment etc.

Each of these components of development themselves consist of several variables/indicators.[1] Following economic logic, variables have been grouped a-priori on the basis of which aspect of development they are representing. Correlation Matrix of in-group variables has been looked into to confirm whether all the coefficients are positive or not. Any variable having negative correlation with others would signify that the variable is moving in a direction opposite to the others, and hence should not be included in that group. In the present case however, all the variables in a group are observed to move in tandem. After grouping the variables under the three sub-components already discussed, effort has been made to construct composite indices - each index representing one particular aspect of development - of Agricultural Development (AGDEV), Industrial Development (INDDEV) and Human Development (HUDEV) for the states of India, as well as the National level for each of the 30 years. In the present study, we accept the reality that significant variables measuring development are widely dispersed over space (and time) and there is marked inequality

among regions regarding their development levels. Consequently, the Modified Principal Component Analysis is used to construct composite indices for each of the groups of variables by finding out such a ' Weight' vector that maximizes the sum of squared projection of the transformed data matrix after transforming them by dividing by mean.[2] AGDEV, INDDEV and HUDEV are thus prepared using the MODPCA method. A Composite index of overall development level has also been prepared. This is done in two ways. The first method uses MODPCA on the three indicators AGDEV, INDDEV and HUDEV to arrive at a composite index of development - represented by DEVT1. Secondly, a simple summation of the three indicators already obtained gives us the second composite index of development, represented by DEVT2. Thus, total four indices are prepared by using MODPCA: three sectoral development indices – AGDEV, INDDEV and HUDEV; and one Composite Development index – DEVT1.

The process of combining has been done using the whole data set, i.e. for 16 States and India for all the 30 years (as if India is the 17th observation). This implies that the standardization is done using the same scale and the composite scores thus prepared would be comparable among themselves. In almost all cases, the First Principal Component explains more than 80% of the variation in the data matrix. The study of development is then ventured into using these indices.

Table 1
Trends in Output and Income in India - 1971 – 2001
(Constant 1993-94 prices)

Year	Gross Domestic Product				PCI
	Primary	Secondary	Tertiary	Total	
1970-71	137320 (46)	46151 (16)	113438 (38)	296909	5488
1975-76	152522 (44)	55708 (16)	136519 (40)	344749	5679
1980-81	159293 (40)	70687 (18)	171148 (42)	401128	5907
1985-86	186570 (36)	99906 (19)	227514 (44)	513990	6808
1990-91	223114 (32)	150383 (22)	319374 (46)	692871	8259
1995-96	251892 (28)	206863 (23)	440808 (49)	899563	9693
2000-01	286666 (24)	263740 (22)	648186 (54)	1198592	11763
2004-05 QE	314180 (20)	335036 (22)	880192 (58)	1529408	14018

Source: Reserve Bank of India Database on Indian Economy from www.rbi.org.in.

III. GROWTH EXPERIENCE IN INDIA

Indian economy has been growing quite vigorously over the last three decades and GDP has quadrupled during 1970-2000 period (Table 1). However, the growth has been much more

pronounced in the Tertiary and Secondary sectors, wherein it has multiplied by six and five times respectively, compared to the Primary sector where the GDP has only doubled. This is in line with the theories of economic transition, which state that with time, the importance and share in national output would shift from the Primary to the secondary and then to the tertiary sector. The notable feature however is that India seems to have jumped a stage of economic transition. The shift seems to be directly from the primary to the tertiary sector, bypassing the secondary sector, whose share in GDP has never crossed a quarter. The desirability and sustainability of such leap-frogging has however been widely debated.

Table 2
Annual Exponential Growth Rates in Output and Income in India - 1971 – 2001 (%)
(Constant 1993-94 prices)

Period	Gross Domestic Product				PCI
	Primary	Secondary	Tertiary	Total	
1970-75	2.1	3.8	3.8	3.0	0.7
1975-80	0.9	4.9	4.6	3.1	0.8
1980-85	3.2	7.2	5.9	5.1	2.9
1985-90	3.6	8.5	7.0	6.2	3.9
1990-95	2.5	6.6	6.7	5.4	3.3
1995-2000	2.6	5.0	8.0	5.9	3.9
2000-04 QE	2.3	6.2	7.9	6.3	4.5
1970-80	1.5	4.4	4.2	3.1	0.7
1980-90	3.4	7.8	6.4	5.6	3.4
1990-2000	2.5	5.8	7.3	5.6	3.6

Source: Author's calculation based on Table 1.

1. Growth Rates at the National Level

Concentrating on the growth rates proper, it appears that the growth over the three decades has not been smooth and consistent (Table 2). While during the first decade, growth rate in GDP was around 3 per cent p.a., it remained above 5 per cent during the next two decades, marking a departure from the so called *Hindu Rate of Growth*. As noticed earlier, the growth has been much slower in the Primary sector, hovering around the 2 per cent mark all throughout. On the other hand, growth in the tertiary sector has not only been impressive, but the growth rate itself has increased over time, indicating the rising importance of this sector in recent times.

Along with the rise in growth rates in sectoral and total GDP over the years, a fall in population has also been observed in India. As a result, growth in PCI, the most commonly used measure of economic growth, has jumped from lower than 1 per cent p.a. during the first decade to over 3 per cent during the '80s, and then to over 3.5 per cent during the '90s. In fact, quick estimates for the 2000-04 period show a PCI growth rate of over 4 per cent p.a.

If we consider the soft liberalisation of mid-eighties and the Structural Adjustment Programme (SAP) of the nineties, it appears that economic growth in India has improved significantly after the reforms.

2. Growth of State Economies

The impressive economic growth observed at the national level has been perceived at the regional level also. In all, the growth rates in PCNSDP has increased over time for almost all the major states. Notable exceptions being Bihar, Haryana, Orissa, Punjab, and Uttar Pradesh where the growth rates have either remained stable or have decreased over time.

Table 3
Trends in Per Capita Income in Major States of India

State	1971	1976	1981	1986	1991	1996	2001
Andhra Pr	4196	3947	5170	4778	7090	8514	10609
Bihar	2608	2691	2822	3383	3293	3338	3554
Gujarat	5986	6123	6934	7573	7923	13206	13232
Haryana	6293	6911	7598	8947	11082	12591	14181
Himachal Pr	5891	5953	6027	6381	7523	9140	11402
Karnataka	4576	4469	5148	5737	7357	8990	11516
Kerala	5632	5439	5545	5485	6892	8987	10709
Madhya Pr	4981	4422	5105	4936	5773	7089	7699
Maharashtra	5790	6673	7120	7776	9914	13464	14653
Orissa	3370	3433	4093	4556	4855	4773	5927
Punjab	6639	7618	9076	10424	12075	13705	15195
Rajasthan	4389	4849	4473	4971	6109	7862	8571
Tamilnadu	5410	5474	5773	6178	7991	10451	12717
Uttar Pr	3449	3658	3982	4368	5069	5706	5687
WBengal	4592	4684	4717	5480	6331	7880	10375
Delhi	10693	11387	12123	13876	17607	20983	26550
CV (%)	34.8	37.8	37.6	40.8	43.3	43.8	46.1
Best-Worst Ratio	4.1	4.2	4.3	4.1	5.3	6.3	7.5
Gini Coeff	-	-	18.2	18.7	20.1	25.2	25.5

Source: Same as Table 1.

(i) Disparities in Growth

A matter of concern however is the significant regional disparities in both levels and growth rates of PCNSDP. It is observed that the variation in income levels as indicated by Coefficient of Variation (CV) in PCNSDP has been increasing consistently over time and has crossed 45 per cent in 2001. While this indicates unconditional divergence in the regional income levels, there has been conditional convergence with the growth rates themselves converging over time. The CVs in growth rates has decreased over time. The spurt in the CV in the immediate post-SAP period however, is of concern as it indicates that the SAP has benefited the relatively high income states and not the poorer states as desired.

The Best-Worst ratio (between highest and lowest PCNSDP) has also shown divergence in the post-SAP period, with the richest state (Delhi) having PCI more than seven times of the poorest state

(Bihar). That the gap between the fastest growing state and the slowest moving (in fact decelerating sometimes) state is also increasing, especially after the reforms is an additional area of concern.

(ii) ***Gini Concentration Ratio***

While the CVs, differences and ratios give us a substantially clear picture about the regional imbalances in India and trends thereof in the post reform era, we must also consider the magnitude of population leaving at the extreme ends of the development ladder to have a better grasp of the severity of inequality. For that, we construct Gini concentration ratios of PCNSDP using the states as observations, and their population as weights (the underlying assumption is that the PCNSDP of a state is enjoyed by all the people of the state). It thus captures only inter-state inequality and not intra-state inequality. It is observed that the decade after the reforms is marked with substantial rise in Gini concentration ratios, the peak being in 2001.

Table 4

Annual Exponential Growth Rates in Per Capita Income in Indian States (%)

	71-76	76-81	81-86	86-91	91-96	96-01	71-81	81-91	91-01
Andhra Pr	-1.2	5.5	-1.6	8.2	0.9	2.8	2.1	3.2	4.1
Bihar	0.6	1.0	3.7	-0.5	-1.6	1.9	0.8	1.6	0.8
Gujarat	0.5	2.5	1.8	0.9	4.3	6.2	1.5	1.3	5.3
Haryana	1.9	1.9	3.3	4.4	0.0	2.6	1.9	3.8	2.5
Himachal Pr	0.2	0.2	1.1	3.3	0.9	3.0	0.2	2.2	4.2
Karnataka	-0.5	2.9	2.2	5.1	1.3	2.8	1.2	3.6	4.6
Kerala	-0.7	0.4	-0.2	4.7	2.9	2.5	-0.2	2.2	4.5
Madhya Pr	-2.4	2.9	-0.7	3.2	2.7	1.5	0.2	1.2	2.9
Maharashtra	2.9	1.3	1.8	5.0	4.2	2.0	2.1	3.4	4.0
Orissa	0.4	3.6	2.2	1.3	0.2	-0.5	2.0	1.7	2.0
Punjab	2.8	3.6	2.8	3.0	1.0	1.5	3.2	2.9	2.3
Rajasthan	2.0	-1.6	2.1	4.2	0.2	4.9	0.2	3.2	3.4
Tamilnadu	0.2	1.1	1.4	5.3	2.3	3.1	0.7	3.3	4.8
Uttar Pr	1.2	1.7	1.9	3.0	0.0	2.4	1.4	2.4	1.2
WBengal	0.4	0.1	3.0	2.9	1.3	3.1	0.3	3.0	5.1
Delhi	1.3	1.3	2.7	4.9	0.6	2.9	1.3	3.8	4.2
CV (%)	234.9	96.3	84.4	55.8	120.2	54.4	78.4	32.7	39.7
Best-Worst Gap	5.2	7.1	5.3	8.8	5.9	6.7	3.3	2.6	4.5

Source: Author's calculation based on Table 2.

It can thus be commented that while economic growth in India has been quite impressive in India, especially in the post 1985 period, spatially the growth has not been equal. Many of the state economies have fallen behind and regional disparity in growth have increased, especially in the post-SAP period. This must have hindered the national growth performance as well since many of the stagnating and slow growing states are the most populous ones also.

Apart from the divergence in growth experiences and the concerns regarding the '*missing step*' in the economic transformation of India, what needs to be examined is our experience regarding

development. As has already been mentioned, we try to explore our performance regarding development using multiple indices that would adequately reflect the multidimensional character of it.

IV. OUR DEVELOPMENT EXPERIENCE

We have prepared indices of Agricultural Development (AGDEV), Industrial Development (INDDEV) and Human Development (HUDEV) for the states of India, as well as the National level for each of the 30 years. These have been again combined to arrive at the composite indices of development – DEVT1 and DEVT2. The development performance can be examined in terms of trends in these indices. In addition, we must understand that development also entails uplifting the living standards of the hitherto downtrodden mass of people. This would be perceived in the form of decreasing inequality and poverty. Let us examine these issues now.

1. Trends in Levels of Development

There has been a sustained rise in the parameters measuring level of development, both at the National and at the state level during the 30 years of study. If we look at National data (Table 5) we find that all the three components of development – AGDEV, INDDEV and HUDEV have shown a continuous rise during 1971-2001. The factor scores have increased by the largest proportion for AGDEV (more than five times) followed by HUDEV and INDDEV (by about 50% in both). When the composite indices of development are looked into, it is observed that DEVT1 and DEVT2 fluctuated during the Seventies, but steadily increased thereafter, by about 45–50% during 1981-2001. More or less similar trends were observed for the major states also.

Table 5
Composite Indices of Development in India - 1971 - 2001

Year	Agdev	Inddev	Hudev	Devt1	Devt2
1971	0.356	1.425	2.027	1.812	3.808
1976	1.367	1.519	2.107	1.578	4.993
1981	1.445	1.478	2.249	1.623	5.172
1986	1.505	1.732	2.525	1.805	5.762
1991	1.454	1.867	2.766	1.953	6.087
1992	1.499	1.919	2.855	2.021	6.273
1993	1.733	1.966	2.916	2.127	6.615
1994	1.767	2.033	2.992	2.210	6.792
1995	1.737	2.118	3.259	2.305	7.114
1996	1.760	2.165	2.974	2.277	6.899
1997	1.737	2.139	2.964	2.257	6.840
1998	1.808	2.114	3.020	2.291	6.942
1999	1.884	2.153	3.080	2.349	7.117
2000	1.841	2.140	3.093	2.334	7.074
2001	1.853	2.095	3.122	2.333	7.070

Source: Aurhor's calculations based on methodology discussed in text and Data Sources mentioned in Appendix

If we compare the pre-reform performance with that during the 90s, it is observed that during the first two decades, the rise in the development indices had been quite substantial – by 15.4 per cent per annum for AGDEV, by 1.5 per cent p.a. for INDDEV and 1.8 per cent p.a. for HUDEV (Table 6). Rise in DEVT1 and DEVT2 have been by 0.4 and 3.0 per cent p.a. respectively. On the other hand, in the post-SAP era, the rate of improvement (since all our measures except PCNSDP are indices, we refrain from using the term 'Growth Rate') has declined for AGDEV, INDDEV, HUDEV, and DEVT2, and has increased for DEVT1 only. Thus at the national level, the performance in the post reform period can be said to be significantly inferior to the pre-reform period. The same is true for most of the major states that we are studying.

Table 6
Decadal Average Annual Growth Rates in the Composite Indices of Development in India - 1971 - 2001

Year	Agdev	Inddev	Hudev	Devt1	Devt2
1971 – 1981	30.6	0.4	1.1	-1.0	3.6
1981 – 1991	0.1	2.3	2.0	1.8	1.6
1971 – 1991	15.4	1.6	1.8	0.4	3.0
1991 – 2001	2.4	0.9	0.9	1.5	1.3

Source: Same as Table 5

2. Regional Disparity in Development

One of the major concerns of economic planners in India has been the regional inequality in the fruits of development. There had been a huge gap between economically active and vibrant regions and the hinterland during the pre-independence period in terms of availability of facilities and this manifested itself in the form of unequal levels of development. On attaining independence, our proclaimed objective was to bring about regional equality in growth and development even at the cost of efficiency and aggregate growth. Whether that intention has fully materialised needs to be examined.

(i) Hierarchy of the states

It can be seen that the hierarchy has remained fairly similar over time – with the same states retaining the top and bottom positions. Delhi captures the top-most position for almost all the development parameters for most of the years. This may have been caused by simultaneous working of different factors like - its small geographical size, its importance as the National Capital City and the huge capital expenditure incurred to modernize, develop and promote the National Capital Territory and make it comparable with other international cities. If we look more closely, a regional pattern emerges from the hierarchy of the states. It seems that the North-western, and Western states are consistently doing better in terms of composite measures of development. In case of AGDEV, the North-western states are doing well all along, with the Southern states coming up since the '80s. On the other hand, in case of INDDEV, the Western states are leading with the North-western states also

coming up since mid-80s. In case of HUDEV, the Southern states are doing well along with the Western states. This clearly reflects a regional pattern with the Eastern, Northern and Central regions performing poorly from where only West Bengal is reaching close to the national average level of development. This regional disparity is of grave concern. The only consolation is that when we look at the rates of improvement, we find that for both AGDEV and INDDEV, the eastern states are showing remarkable performance from late '80s onwards. Perhaps they have started late and this improvement is yet to be translated to improvement in their ranks. Still, it seems that there is a tendency for the erstwhile lagging regions to slowly catch up with the other advanced regions of our country, which is heartening and desired.

(ii) ***Regional Disparity Levels***

Table 7 shows the inter-state variation in the different indicators of development for the 1971-2001 period. It is observed that substantial variation exists in the level of development among the states, measured by the Coefficient of Variation (CV) in all the development indicators – both sectoral and aggregate. The variation is higher in Agricultural development compared to Industrial development until late '70s. Beyond 1980, there seems to be a sudden jump in the CV for INDDEV. On closer inspection, it is found that sudden high growth of Delhi as an industrial power is the root cause of it. If we exclude Delhi, we find that the earlier trend is still continuing. This indicates that Agricultural development has been less equitably spread over regions than industrial development.

Table 7
Inter-State Variation in Composite Indices of Development
Coefficient of Variation - 1971 - 2001

Year	All 16 Major States					Excluding Delhi		
	Agdev	Inddev	Hudev	devt1	devt2	inddev	devt1	devt2
1971	33.0	40.1	23.1	32.5	30.2	29.1	17.8	17.7
1976	39.7	35.8	25.1	32.5	30.9	28.4	17.4	17.4
1981	33.8	32.9	22.7	30.1	28.2	24.5	17.3	17.3
1986	64.1	78.4	20.8	55.2	47.7	27.7	25.6	20.9
1991	40.6	87.7	19.8	52.7	47.0	25.2	21.5	20.7
1996	42.3	147.7	18.1	81.9	58.1	31.9	27.0	23.3
2001	39.8	132.3	15.4	71.4	50.3	29.7	24.7	19.9

Source: Same as Table 1

(iii) ***Trends in Regional Disparity – Convergence-Divergence Analysis***

More important than the levels of variation are the trends exhibited by the variation, i.e. whether the distribution is showing greater equality or otherwise over time – especially in the post-reform period. This has been done using the two tests - σ test and β test. The development experience of the states prior to the reforms seems to be somewhat varied. Disparity in AGDEV seems to have increased during the '70s, fluctuated thereafter till the '80s, but has again increased significantly since then. On the contrary, inter-state differences in INDDEV have declined steadily till '80s, much of which can be attributed to the State control over industrial licenses and hence on their location, and to the effort

of the State to disperse the PSUs and Private units across the nation – specially towards hitherto backward areas. It has shown divergences thereafter. Regional variation in Human development has however remained steady over the years along with an overall declining trend. When the composite indices of development are studied, it is observed that variation in both the indicators DEVT1 and DEVT2 across states remained steady during 1971-81. But thereafter, they have shown fluctuations along with diverging tendencies. The regional disparity in HUDEV declined in both the quinquenna in the post-reform period. However, the other indicators show opposite trends in the two halves of the decade. CVs increased significantly in the immediate post-reform period, but have remained steady thereafter with a trace of decline in the late 90s. The same inferences are obtained from the β-test also. Over the decade, all the indicators exhibit a diverging trend.

It can thus be safely commented that the regional imbalance has increased in the post-reform period in India in terms of the sectoral as well as the composite indicators of development.

Interesting results are thrown up when we classify the states into High income, Middle income and Low income groups based on their PCNSDP relative to the national per capita GDP.[3] It is observed that for all the indicators, the low-income states are experiencing strong divergence in the post-reform period, contrary to the convergence shown by them in the first four periods. For high-income states, while convergence is observed for the 1991-96 period, divergence is observed for the next half. Just the opposite trend is exhibited by the middle-income states. As a result, over the decade, there is strong divergence within the low-income states, weak divergence among the high-income states and stability within the middle-income states.

This indicates that the increasing regional disparity in the post-reform period has been mainly due to the divergence within the low-income and high-income states and there has occurred substantial stretching at the two extremes of the development scale. This has been mainly due to the deceleration of some of our already lagging states. Bihar registered a negative improvement rate in the composite indices; Uttar Pradesh had an improvement rate of 0.6% and 0.8% p.a in DEVT1 and DEVT2 respectively, while improvement rates in Orissa averaged only 1.2% during 1991-96. Though the situation improved somewhat in the next quinquenna, over the decade, two of our most populous states, Uttar Pradesh and Bihar registered improvement rates of less than half of the national average. In fact, less than national average decadal improvement rates have been shown by Bihar, Orissa, Karnataka, Tamil Nadu, and Uttar Pradesh for all the indicators of development. The brunt of the post-reform restructuring of the economy seems to be borne mostly by the relatively poorer states.

*(iv) **Regional Disparity: Best-Worst Ratios***

Apart from the conventional measure of σ-test and β-test, the trends in disparities may be explored with other measures as well. As we have already differentiated between the high-income and low-income states, a measure of inequality may be the ratio of average value of development indicator for

the former group of states with that of the latter group. It is observed that this ratio have increased in the post-reform period for all the indicators except INDDEV (Table 8). Moreover, the magnitude of this ratio is disturbingly high. In fact, the gap between the best of the states and the worst of them has also been increasing for all the indicators except INDDEV in the 90s.

Table 8
Best-Worst Ratios in Development Indicators

Indicator	1991	1996	2001
Agdev	3.9	3.0	6.4
Inddev	18.9	20.3	17.1
Hudev	2.1	2.3	2.2
Devt1	7.3	6.2	8.0
Devt2	5.1	4.3	6.0

Source: Author's Calculation

Table 9
Incidence of Poverty and Intra-State Disparity in Consumption

	Gini coeff in Consumption				Incidence of Poverty			
	Rural		Urban		Rural		Urban	
State	**1993**	**1999**	**1993**	**1999**	**1993**	**1999**	**1993**	**1999**
Andhra Pr	28.92	23.80	32.29	31.60	30.6	28.3	35.0	27.6
Bihar	22.45	20.80	30.91	32.20	48.8	44.8	43.6	49.0
Delhi	-	-	-	36.50	-	-	-	-
Gujarat	24.00	23.80	29.13	29.00	18.3	14.4	20.2	13.3
Haryana	31.41	25.00	28.37	29.10	12.8	5.6	17.0	13.9
Himachal Pr	n.a.	24.70	n.a.	30.90	30.8	12.0	11.1	12.5
Karnataka	26.97	24.50	31.87	32.70	30.5	23.3	31.0	20.2
Kerala	30.07	29.00	34.32	32.60	11.3	5.5	21.8	18.0
Madhya Pr	27.96	24.40	33.00	31.80	38.8	44.3	32.5	35.0
Maharashtra	30.65	26.10	35.67	35.40	36.1	27.2	20.5	18.2
Orissa	24.57	24.60	30.69	29.50	53.0	50.4	35.1	40.7
Punjab	28.14	25.40	28.08	29.30	4.2	3.7	12.3	11.7
Rajasthan	26.48	21.40	29.36	28.50	16.6	11.6	25.0	20.2
Tamilnadu	31.24	28.30	34.84	38.80	31.5	28.6	31.6	22.4
Uttar Pr	28.12	24.90	32.33	33.20	34.1	31.2	37.2	38.0
W Bengal	25.41	22.60	33.84	34.60	27.9	27.0	27.8	23.9
CV in Rates					**44.8**	**58.1**	**33.1**	**44.0**

Note: Gini coefficients are for Monthly Per Capita Consumption Expenditure.
Source: Gini Coefficients are Author's calculations. Poverty Estimates are from Sen (2004).

(v) ***Incidence of Poverty***

One of the major objectives in India has been the alleviation of poverty. In spite of the recent controversies over the methodology of NSSO Survey Rounds, it is accepted that there has been a substantial reduction in the incidence of poverty in India over the years. However, once the regional dimension of poverty reduction is explored, it is observed that the regional variation in incidence of poverty has increased after the liberalisation in the 1993-99 period, as indicated by rising CV in poverty rates (Table 9). Also, the fact that in an economy with sustained PCI growth rate of over 3

per cent for the last 20 years, more than 28 per cent of people are still below poverty line does not speak too well for the development performance.

3. Intra-state Variation in Levels of Development

It has been so far indicated that rising inter-state differences in development is a major characteristic of development experience in India after the liberalisation programme was initiated. Let us come down one further level and look at Intra-state variations in development.

(i) Intra-state Disparity in Development Indices

To look at Intra-state variations in development, the same Composite Indicators of Development were prepared for the Districts of the 16 states for 4 time points - 1971, 1981, 1991, and 2001. Based on these District level scores, Intra-state variation is then measured by the CV obtained from the district scores of that state, while their mean gives the Average level of development of the state. It is observed that intra-state disparity has been rising in most of the states for the 1991-2001 period (Table 10). In fact, for AGDEV and HUDEV, it is increasing for all the states, while for INNDEV, it is declining for few states. As a consequence, disparities in overall development level is increasing in post-reform period in all but 4 states.

Table 10

Trends in Intra-State Disparity in Development Levels – 1991-2001

Variable	*States with Increasing Disparity*	*States with Decreasing Disparity*
AGDEV	Andhra Pr., Bihar, Gujarat, Haryana, Himachal Pr., Karnataka, Kerala, Madhya Pr., Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pr., W. Bengal	None
INDDEV	Gujarat, Haryana, Himachal Pr., Maharashtra, Orissa, Rajasthan, Uttar Pr.	Andhra Pr., Bihar, Karnataka, Kerala, Madhya Pr., Punjab, Tamil Nadu, W. Bengal
HUDEV	Andhra Pr., Bihar, Gujarat, Haryana, Himachal Pr., Karnataka, Kerala, Madhya Pr., Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pr., W. Bengal	None
DEVT1	Bihar, Gujarat, Haryana, Himachal Pr., Karnataka, Kerala, Madhya Pr., Maharashtra, Punjab, Rajasthan, Uttar Pr.	Andhra Pr., Orissa, Tamil Nadu, W. Bengal
DEVT2	Bihar, Gujarat, Haryana, Himachal Pr., Karnataka, Kerala, Madhya Pr., Maharashtra, Punjab, Rajasthan, Uttar Pr.	Andhra Pr., Orissa, Tamil Nadu, W. Bengal

Source: Author's Calculation

(ii) Intra-state Disparity in Consumption

If we consider Consumption level as the indicator of development rather than Income, and Gini concentration ratios are prepared using Consumption Expenditure data from NSS Rounds, then aspects of Intra-state distribution can be measured with these Gini concentration ratios for each of the states also. It is observed that inequality within the states is substantial in many states (Table 9). The inequality seems to have increased in rural Madhya Pradesh and in the urban areas of Bihar, Himachal Pradesh, Madhya Pradesh, Orissa, and Uttar Pradesh in the 1993-99 period. This indicates

that apart from spatial disparities, inter-social-group inequalities are also on the rise in many areas during the 90s.[4]

Broadly speaking, it can thus be concluded that variation in development indicators associated with the real production sectors have shown cyclical pattern but with a steadily rising trend, and especially since the initiation of SAP there has been a noticeable increase in the interstate variation in development indices. Thus, regional disparity seems to have increased in the post-reform period, a major cause of which is further slowing down of the low income states. In fact, the difference between the average development level of the high income states and that of the low income states have widened during the post-reform period. This is a matter of serious concern. However, there is a weak but perceptible trend of tapering off of the inequality curve towards the end of the century.

V. GROWTH, DEVELOPMENT AND INEQUALITY

1. Growth and Development

Considering the growth and development experiences in India over the study period of 30 years, it appears at first sight that the discrepancy between growth and development has been quite prominent. While growth has accelerated in the post-reform period, improvement in development levels has decelerated. Moreover, we find that all along the growth rate in PCI has far outstripped the improvement rates in the developmental indices. This implies that material increase in average level of income has not been translated into comparable improvement in living standards. Moreover, the sectoral developmental indices have also lagged behind economic growth, indicating that production processes and condition of the people associated with these production spheres have also not progressed at the same rate.

However this should not breed the idea that higher growth has ushered lower development in India. It is peculiar of the SAP that while it has been successful in significantly elevating growth in PCI, it has failed to replicate that success in the multidimensional sphere of development.

Table 11

Cross Tabulation of PCI and Developmental Index relative to National Average

Development ► / PCI ▼	High	Low
High	Gujarat, Haryana, Maharashtra, Punjab, Delhi	
Low	Karnataka, Kerala, Tamil Nadu, West Bengal	Andhra Pr, Bihar, Himachal Pr, Madhya Pr, Orissa, Rajasthan, Uttar Pr

In fact, necessity of high growth to usher in development is highlighted if we look at Table 11 where we cross tabulate states with higher or lower PCI than national average along with states having higher or lower value of composite index of development DEVT1. It appears that none of the states that have PCI higher than national average have developmental level lower than national average.

There are 5 states that have both PCI and developmental level higher than national average, while there are 7 states for which both these indices are lower than national average, highlighting the linkage between growth and development. There are however 4 states that have lower PCI but higher developmental level compared to national average. The specific factors that help these states needs to be explored in future works.

2. Growth and Inequality

Another issue of interest may be that of growth and inequality. The effect of growth on inequality in the post-SAP era may be studied both at the national and sub-national level. At the national level we have looked at the relationship between the growth rates in the developmental indices already outlined and their CVs across the states in the next year. It is observed that higher levels lead to higher inequalities in case of Total, Secondary & Tertiary sector NSDP growth rates. The same is true for INDDEV. Higher growth is leading to higher inequalities in these sectors after liberalisation. In the Agricultural sector and in Human Development, higher levels are leading to lower inequalities. In addition, the inequality-accentuating effects are much stronger in the immediate post-reform period of 1991-96 compared to the 1996-2001 period, hinting at some sort of tapering off of the inequality curve.

At the sub-national level, one may look at the growth in the developmental level of a state and intra-state disparities – both spatial and interpersonal. Interpersonal disparities have been measured by the Gini concentration ratios in Consumption expenditure for different income classes within a state for the years 1993-94 and 1999-2000. It is observed that for PCNSDP higher growth leads to higher inequality in terms of higher final year Consumption Gini coefficients, indicating that growth in PCI of the state has accentuated intra-state disparity in consumption in the post-SAP era. For the other variables, an inequality dissipating effect is observed. Spatial inequality within a state has been measured by the CVs in the developmental indices across the districts of each state for both 1991 and 2001. It is observed that both INDDEV and HUDEV show positive association between improvement rates and terminal year CV – indicating that growth has lead to spatial inequality in these two areas.

It thus emerges that if we consider only PCI (or PCNSDP), growth in the post liberalisation period has accentuated both regional and inter-income-group inequality at the national as well as at the sub-national level. However the picture gets more complex if we take a broader view and look at the multidimensional composite indices of development. Agricultural development is seen to be having an egalitarian effect while human development is accentuating regional disparity within the states but narrowing down gaps at the national level among the states and also among income classes within the states. While industrial and tertiary sector development is accentuating spatial inequality both among states and within states, they are leading to greater equality across income classes. In this regard, mobility of labour and immobility of resources (inputs and infrastructural) may be playing an

important part. While development in these sectors have been spatially concentrated, their expansion, even in a particular region, are leading to betterment of living standards across income classes.

3. Increasing disparity – some explanations

What are the main reasons behind the increasing disparity in the post-SAP period, especially in the first half of the 1990s? Two major factors seem to be operating. Firstly, efforts towards high growth with emphasis on private decision makers have been lopsided. The SAP introduced in India aimed at propelling the economy to a higher growth path, and removing socio-economic inequality. In this transformed regime the State is to play the role of a facilitator while the expansionary effort is to be taken up mainly by the private players. However, this requires that the basic infrastructural services be in place. In fact, developing economies aiming at high growth in an era of globalisation consider inadequate infrastructure as a major bottleneck in their way. Rational private decision makers tend to concentrate around centres where facilities and ready markets are available. Since the rich states are in a relatively stronger position to spend on Developmental projects, the gap between the advanced states and the backward states in terms of available Infrastructural facilities have been increasing in recent times. This inequality in infrastructural facilities and market conditions may have led to concentration of private players in few regions - both during the Green revolution in the agricultural sector and in the post-reform liberalised industrial and tertiary sector. This may have accentuated regional disparity in the respective sectors, which we would examine herein. This also brings us to the second factor. In the transformed scenario, the impetus for growth comes more from the Tertiary sector, compared to the other two sectors. There are vast differences in the position of the states regarding relative importance of the tertiary sector and the inducement provided to this sector by the state governments. The current Tertiary sector revolution has to be thus monitored cautiously as it may have brought about a fresh wave of Inequality among states.

VI. GROWTH ENGINE IN THE TRANSFORMED REGIME

The transformed nature of the economy and differences in the states' capabilities in exploiting the opportunities may be a major factor in widening differences in the state per capita incomes and other developmental indices in recent years. Throughout the decade of the nineties, there has been a marked shift in the structure of the economy in India at the national level. While the primary sector still provides the majority of employment, majority of the domestic product now arises from the tertiary sector. The growth contribution of this sector is also highest in the national economy. But the experiences of the states are quite varied, and a major cause of their differential performance during the nineties is the difference in the relative contribution and growth rates of the tertiary sector in different states. As is evident, the disparity among the states as regards share of tertiary sector in the total NSDP increased during 1991-96 period and declined during 1996-2001 period, in tandem with the trends in disparity levels of composite development indicators. The states with high share of

tertiary sector are also those with considerably high growth rates of NSDP during the nineties (exceptions are Gujarat and West Bengal, where share of tertiary sector is less than national average and yet NSDP growth rates are more than national average, fuelled by industrial and agricultural spurts respectively). The contribution of the three sectors in the total NSDP growth rates can be measured by weighting the sectoral growth rates with respective sectoral shares. It is observed that in the first quinquenna of the nineties, this ranged from 0.8 per cent in Bihar to 4.0 per cent in Delhi and 3.8 per cent in Maharashtra. In the second half, it ranged from 1.8 per cent in Punjab to 5.0 per cent in Delhi. The variation in contribution dropped from 45 per cent during 1991-96 to 25 per cent during 1996-2001. Thus, the trends in regional disparity in the developmental indices are quite in tune with the trends exhibited by the share in NSDP and contribution towards growth of the tertiary sector in the states. The emergence of the tertiary sector as the new engine of growth in India has therefore been associated with a fresh wave of widening regional disparity, and disparity in the expanse and growth of this sector has to be arrested to seriously combat regional imbalances. In this regard, the role of expanding educational network and vocationalisation of the education system has to be attached due prominence.

VII. SUMMARY FINDINGS AND POLICY ISSUES

The major findings of this paper can be summarized along following lines. There has been impressive rise in PCI in India over the decades leading to significant economic growth. But although there has been noticeable rise in levels of development during the study period, the rate of improvement has lagged behind the rate of growth. In fact, in the post-SAP era, while economic growth has accelerated, development process has decelerated. The hierarchical position of the states has remained more or less similar. Regional disparities have increased in the immediate Post-reform period with the low income states being more severely hit by the restructuring of the economy. Advanced states are taking full advantage of their position in the liberalised scenario, while the weaker states are lagging far behind. In fact, the difference between the average development level of the high income states and that of the low income states have widened during the post-reform period, indicating that perhaps the post-liberalization era has affected different sets of states in different manner - rewarding the better-off ones and neglecting the weaker ones. The private decision makers seem to be avoiding the weaker regions - major causes of which are lack of proper infrastructural facilities in those areas, and lack of state initiative in pursuing developmental projects. This may be perceived by the investors as lack of vibrant economic policies and business & political atmosphere in those regions. There also exists substantial inter-social-group disparity in consumption levels, which has also widened in the post-reform period.

However, this does not translate into concluding that there is a strong trade-off between growth on one hand and development and equity on the other, where sacrificing the latter has ushered in the

former. In fact, if we look at intra-state inequalities and poverty, states with higher growth performance are those that have been able to decrease incidence of poverty and consumption inequality by larger magnitudes. But either this has been overlooked by the state economies or political compulsions force them to act otherwise. To counterbalance rising social and political unrest against regional disparity, the central authorities have gone slow on the reforms front lest things go 'out of control.' Similarly, rising social inequalities have forced the state governments to continue with many of the populist but dispensable policies. Efforts for structural changes have thus been half-hearted and the 'Big Push' that the SAP promised has never arrived. The economy thus has remained trapped within a moderate long run growth rate but with an increased disparity. The spurts in growth have remained sporadic and short-lived. Rising regional inequalities have stifled growth and there has been 'sharing of underdevelopment' rather than 'sharing of growth'. The widening tendency, however, seems to be decelerating in the later half of the nineties, indicating that a decade of consistent and stable growth has started to yield its results even in terms of the so called *'trickle-down effect'*. The growth effect is thus very much operative in India and while faster growth may not be sufficient, it is necessary to mitigate the problems of underemployment and poverty and is the best way to pull up millions from abject misery. The fact is that there is no trade-off in the importance to be attached to each of the arenas of action as they are interrelated and mutually reinforcing. Higher growth is still the best way to eradicate inequalities and usher in development. Future development efforts must be shaped in the light of this experience. Only then can we have both a bigger cake and really enjoy more equitable shares of it.

Endnotes

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[1] The constituent indicators of the composite indices are as follows. Agricultural Development – Land productivity measured by NSDP from agriculture per 1000 hectare Gross Cropped Area, Labour productivity measured by NSDP from agriculture per 1000 Agricultural Workers, Cropping intensity, Percentage of Net Sown Area under Commercial Crops; Industrial Development – Non-household Manufacturing workers as percentage of total workers, Registered Factories per 1000 sq. km area, Value Added by Registered Factories per worker, Value Added-Productive Capital ratio in the registered Factories; Human Development – Infant Survival Rate (ISR = 1000 – Infant Mortality Rate), Transformed Crude Death Rate (CDR) measured by Inverse of CDR as percentage of Minimum CDR, Transformed Crude Birth Rate (CBR) measured by Inverse of CBR as percentage of Minimum CBR, Primary Enrolment rate, Middle

Enrolment rate, Per Capita NSDP at constant prices, Percentage of NSDP from tertiary sector. For the Data sources see Appendix.

[2] This MODPCA method has been evolved by Amitabh Kundu *et al.* Refer to Kundu, A. (1980). It is often argued that the mean used should not be the simple average of the indicators, but an weighted average of them, the weights being either area or population of the observations (states), depending on which factor the indicator was standardized by. However here the purpose is to make the variables scale-free and express them relative to a common factor. Hence, simple mean will serve our purpose.

[3] The states in the three groups were found to be more or less same for all the six quinquennas. Bihar, Uttar Pradesh, Orissa, Madhya Pradesh, Andhra Pradesh, Rajasthan in low income group; Himachal Pradesh, Karnataka, Tamil Nadu in middle income group; and Punjab, Maharashtra, Delhi in high income group all throughout. Haryana and Gujarat had been in middle group initially but replaced West Bengal and Kerala from high income group in later years.

[4] Increasing open unemployment, increased polarisation and greater socio-economic inequality in post-reform period has also been reported by Mukherjee (2003).

Appendix - Data Sources

CSO - Annual Survey of Industries - Summary Results for Factory Sector, Various Years

CSO - Statistical Abstract of India, Various Years

GOI - Basic Road Statistics, *Min. of Surface Transport, GOI,* Various Years

GOI - Education in India, *Dept. of Education, Min. of HRD, GOI,* Vol. I (s) and II (c), Various Years

GOI - Health Statistics of India, *Min. of Health and Family Planning, GOI,* Various Years

GOI - Indian Agricultural Statistics, *Dept. of Agriculture and Co-operation, Min. of Agriculture, GOI,*

GOI - Selected Educational Statistics, *Dept. of Education, Min. of HRD, GOI,* Various Years

GOI - The India Infrastructure Report, *NCAER,* 1996

NSSO - Survey on Employment and Unemployment, *Min. of Planning and Programme Implementation, GOI,* Various Rounds

RBI - Banking Statistics - Basic Statistical Returns, Various Years

Statistical Abstracts and Yearbooks of various state governments for various years.

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