Recession to Resilience : The Indian Experience in Regional Perspective

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Abstract

The present research, using the state level net domestic product (NDP) data, reviewed the growth experiences of India in terms of the relative performance of her state economies and their relative positions within the country's landscape during the pre-recessionary and post-recessionary period. The analysis revealed that the global recession of 2008 affected almost all state economies in India, though its impact was uneven. Services sector weathered the crisis much better than manufacturing and agriculture sectors because of which the economy firmly entered the recovery path. However, the role and importance of manufacturing in rebounding to recover the economy from the disruptive change of recession is most evident from the findings. The study concluded that emerging economies like India should not bypass manufacturing with services for ensuring further bounce back in the near future and long run sustainability thereafter.

Keywords : **NDP, recession, services, manufacturing**

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The economic growth of every emerging country including India happens virtually with the development of the grassroots, that is, the states. In other sense, the thriving performance of the individual states in a country explains the economic progress of the entire nation. For having better inferences as to the economic development and the contributing forces, one should observe the growth progression of the country with the distribution of GDP growth over its states.

The role of the states in shaping the economic environment of India has been immense, despite globalization and liberalization of the Indian economy. Though the states are dissimilar in terms of area, population or governance, they are operating under similar policy environment and hence, endowed with almost equal opportunity to grow and prosper. Since national development is an aggregation, failure in one state undermines the success of others, which in turn retards the overall growth of the total. Therefore, we should look into the performance of the economy in terms of relative performance of states and their relative positions within the country's landscape.

The economic performances of the states in India are quite uneven. Some northern and central states namely, Delhi, Haryana, Madhya Pradesh, Punjab, Rajasthan, UP etc. are agrarian economies, well known as 'the food basket of India,' are now making slow but sure shift to high-tech industries and services sectors. Few of the states like Delhi boast of amazing infrastructure while the rapidly growing new states of Uttarakhand and Chhattisgarh have a promising future in tourism and industry sectors. Punjab and Haryana, which comprise the 'wheat basket of India', have shown high potential growth in cropping intensity. Himalayan states of Jammu and Kashmir and Himachal Pradesh possess vast potential in terms of alternate energy generation, while Rajasthan and Uttar Pradesh are advancing in agri-business. Karnataka and Tamil nadu have industrial concentration and are

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dominant in industrial production while Maharashtra which is India's richest state, contributed one fourth of the country's industrial output. Its contribution to India's GDP has also been at the same rate. While Kerala has always been a star performer in terms of Human Development Index, Rajasthan attained the maximum decline in inequality and Tamil Nadu topped in poverty reduction. The overall growth of India is the result of the growth dynamics of all these states by various economic parameters.

The financial recession of 2008 has had its impact on both developed and developing markets. India has close integration with the world economy through trade, capital flows, and transfer of technology; hence, the economy has been showing high sensitivity to global demands. Consequently, the reverberations of the recession were quite evident in the performance of various sectors of the economy (Saji, Harikumar, & Kasim, 2013). Many of the Indian states by their very nature are susceptible to exogenous shocks of the financial crisis. Most states in the country are exposed to financial shocks because of their dependency on foreign revenues, concessional financing, primary commodity exports, service exports, and overseas aid, the levels of which, have been affected by the financial crisis. The effects of the crisis were apparent in the performance of the states to different extent based on their level of dependency. Some of the states in the country quickly recovered, which most economists attribute greatly to the pace of resilience of the Indian economy. At this context, it is worth to answer questions like: Do Indian states fully recover from the shackles of the crisis? Which of the sectors at the state level explain the economic recovery of India? This research ultimately intended to capture the essence of these two questions.

Review of Literature

Low wage manufacturing has gained significant role in the traditional development path of India (Bosworth & Collins, 2008). The economy was a negative outlier and service sector share in total GDP and employment was below that of other emerging economies (Kochhar, Kumar, Rajan, Subramanian, & Tokatlidis, 2006). However, for the last two decades service sector has been fueling the economic growth of India (Gordon & Gupta, 2004). The contribution of the service sector was particularly notable after reforms of 90s, which saw an outstanding growth of over six percent and a high contribution of above 60% (Hansda, 2001).

Domestic demand and exports are the major drivers of service sector growth (Eichengreen & Gupta, 2010). Liberalization and reforms act as the main catalyst for the growth of services sector in India (Gordan & Gupta, 2004; Jain & Ninan, 2010). Developed countries contract out their services to developing countries like India that enhance the demand for services from the developing market (Bhagwati, 1984; Hansda, 2001).

Kaldor (1968) is the primary proponent of the structural theory of economic growth and advocated that manufacturing is the main engine of growth. Kathuria and Natarajan (2013) supported this hypothesis of Kaldor (1968) in the Indian context despite the manufacturing sector of the economy losing its share during the post reform period. Even though the economic reforms in the country intend to remove the shackles in manufacturing, the relation between the manufacturing sector and GDP growth was found to be negative in India (Kochhar et al., 2006). Athreye and Kapur (2006) found that after liberalization the concentration of Indian manufacturing sector declined in some industries and increased in others.

The manufacturing sector of the country is exposed to structural changes at a greater degree after reforms, nevertheless, the same is not sufficient to transform its growth trajectory (Bhat, 2014). Based on a comparative study between India and China, Panagariya (2004) claimed that China out beat India in terms of economic growth primarily because of the dreary performance of Indian manufacturing sector. Based on the findings of his study on the impact of reforms of the 1990s on various sectors of the economy, Bajpai (2002) suggested that India needs more reforms in different fields particularly in fiscal consolidation, the labor market, trade, and foreign investment. Improved infrastructure and liberal labour laws shall provide further growth of India's manufacturing sector (Siggel & Agarwal, 2009).

Gupta (2014) observes capital formation rate, agriculture growth rate, electricity consumption per capita

(Kwh), and poverty head count ratio as significant determinants of the economic growth of India during both pre and post reform period. However, their research found the insignificance of growth in contributing economic growth to the country. There had been a deceleration in industrial growth in the country, which could be due to fall in export demand, and some domestic structural policy issues holding private investments (Bhanumurthy, 2014). Jain, Nair, and Jain (2015) found significant causal relations directing from the variables - FDI, Net FII equity, and Import to GDP components in Indian context. Their research captured strong positive relations between the performance of exports, and service components while manufacturing and industry components stood independent.

Strong convergence existed between service and manufacturing sectors in India. Amirapu and Subramanian (2015) observed that the service sub sectors like finance, insurance, and real estate share much of the intrinsic worth of manufacturing sector such as high productivity, international, and domestic convergence in productivity etc. Hence, both manufacturing and services can significantly affect the economic growth of a country (Dasgupta & Singh, 2005). Contrary to this, Gangopadhyay, Singh, and Singh (2008) showed that the penetration of information technology, the flagship service component in Indian manufacturing has been less than the required level.

Regarding the regional disparity in growth, Gutierrez, Orecchia, Paci, and Serneels (2007) commented that the sectors of the economy which store jobs are "more productive", and vary by region and country. Regional disparity exists among states in India with regards to economic growth and growth of contributing sectors (Kalirajan, Bhide, & Singh, 2009). Barua and Chakraborty (2010) held the view that liberalization benefitted higher income states in terms of manufacturing sector and trade with liberalization. This in turn widened the regional inequality in India.

Aghion, Burgess, Redding, and Zilibotti (2005), provided evidence of misallocation of resources across industries and states in India by using state-level industry data. Trade liberalization improved productivity of all industries across states and the same is higher in less protected industries and pro-employer states. In another study, Aghion et al. (2005) exhibited how delicensing widened interstate inequality in industrial output in India.
Papola, Maurya, and Narendra (2011) investigated the growth and structure of manufacturing industries of different states in India and their study found that the manufacturing share in GSDP was as high as 30% in Gujarat. While Maharashtra contributed over 23%, Karnataka contributed about 10% only. A similar study conducted by Tiwari and Roy (2011) revealed that the contribution of manufacturing sector of north eastern states' to the SGDP was not significant.

The findings of Ghosal (2009) supplied evidence for continuous and remarkable growth in absolute share of the service sector in real GDP of India since mid-1980s, while the analysis of net state domestic product (NSDP) showed a mixed picture. The study also identified that agriculture in almost all the states during the 1990 has dilapidated and all states have achieved growth of NSDP in industrial sector. Dasgupta and Singh (2005) showed positive and significant relationship between the manufacturing growth and GDP growth of Indian economy.

Deb and Ray (2013) analyzed the factor productivity growth of manufacturing sector for major 20 Indian states. The research found that most states in India have experienced high total factor productivity growth while some states are prone to declining productivity growth during the post-reform period.

On reviewing the literature, it became quite evident that splendid amount of research on economic growth in India has already come to light. However, the studies using state level data for investigating the relations between economic output and the share of contributing sectors are not significant in number. Moreover, none of the studies so far has explained what structural changes occurred in NSDP composition in India after recession. The present research intended to fill this research gap in economic growth arena of the country.

Data and Methodology

(1) Data : The study was analytical in nature and used published data on economic performance of Indian states.

The period of the study was from 2005 to 2015. For having better inferences, we divided the study period into two sub periods- pre recession period (2005-2009) and post-recession period (2009-2015). We collected aggregate data on five prominent sectors in India: agriculture, manufacturing, services, construction, and mining for analyzing growth, and their contribution to the overall economic growth of the country. Various issues of Economic Survey reports constituted the data source for the study.

(2) Empirical Methodology : The economic performance of states was analyzed in terms of the growth of their overall economy and the growth of its contributing sectors as well. The compound annual growth rate (CAGR) of NDP and contributing sectors was computed for both pre-recession and post-recession period separately.

We used CAGR instead of average annual growth rate, because the CAGR equation allowed us to remove volatility from year to year and find a nice smooth average over a period. Wilcoxon signed rank test compared the net domestic product growth and growth of contributing sectors in Indian states during pre and post-recession period for making out whether there was any statistically significant impact that recession had made on growth regime.

CAGR of overall NDP then regressed, using equation (1) under classical linear regression framework, against the CAGR of individual sectors in order to identify the significant sectors that explained the major variations in economic growth of Indian states.

$$NDP = \alpha + \beta_1 Agri_{it} + \beta_2 Manu_{it} + \beta_3 Mini_{it} + \beta_4 Const_{it} + \beta_5 Serv_{it} + \varepsilon_{it} \quad \text{----------} \quad (1)$$

In equation (1), *NDP* is the CAGR of net domestic product, subscript *i* indicates the i^{th} State, subscript *t* indicates the period of time (year), α and β are parameters to be estimated, and ε_{it} is the error term.

Results and Discussion

The study at first analyzes NDP as well as sectoral growth of states during both pre and post-recession period. Thereafter, we administer causal analysis to find out those sectors, the growth of which significantly explain the variations in NDP growth of states.

During pre-recession years, states like Uttarakhand, Goa, and Chhattisgarh were the fastest states in India. In fact, the growth of Goa was most the continuous and consistent. Except for the two states Manipur and Jharkhand, CAGR of all other states in India was in double digits. During the period most of the states were growing continuously from 2005 to 2007, but some rate of reduction was noticed in 2008 (Table 1).

During and after the recession, the growth of the economy was truly the accumulation of positive economic growth of all Indian states. Both large and small states are unevenly contributing to the total GDP of the country. On one-side small states like Sikkim, Delhi, Tripura, and Kerala attained terrific rate of economic expansion, and on the other hand giant states like Bihar, Madhya Pradesh, Rajasthan, and Gujarat significantly added to the total production of goods and services in their economy at outstanding rate. Goa was at the bottom of the list; despite its rate of growth that was over 10%.

From the period of 2005 to 2008, a few states in India registered double-digit growth in agriculture production (Table 2). When six states, which included Puducherry, Mizoram, and Jharkhand, gained around 20% growth in their primary sector, for six other states, the agriculture production was negative. Smaller states in India- Goa, Delhi, and Kerala faced sustained negative growth, which might be because of rapid urbanization and geographical confinement. Bihar, one of the largest states in India, was also exposed to contraction in agricultural activities during the period.

Subsequent to recession, the rate of growth in agriculture was uneven. However, only six states registered negative growth in their agri-based production. As in the prior years of recession, small states like Goa and Kerala

Table 1. Net Domestic Product Growth in India : State Wise Analysis

No.	States	Pre-RecessionPeriod					Post-Recession Period					
		2005	2006	2007	2008	CAGR	2009	2010	2011	2012	2013	CAGR
1	Andaman & Nicobar	13.2	24.2	18.2	16.7	17.65	18.1	5.3	14.2	11.8	12.7	**11.53**
2	Andhra Pradesh	13.9	17.3	21.1	17.8	17.34	11.3	22.7	13.2	14.2	13.5	**14.54**
3	Arunachal Pradesh	7.9	9.5	17.1	18	12.33	31.6	22.1	15.3	13.6	14	**18.27**
4	Assam	11.1	8.8	9.3	14.7	10.75	19.3	18	11.4	12.5	15.9	**15.11**
5	Bihar	5.7	23.2	12.6	26.1	14.44	14.2	25.4	19.8	22	16.2	**19.1**
6	Chandigarh	20.6	20.6	11.3	11.5	15.32	14.5	13.6	13.3	8.6	15.9	**12.91**
7	Chhattisgarh	10.3	26	20.5	19.4	18.07	1.7	22.2	19.8	11.7	12.1	**10.11**
8	Delhi	15.2	17.5	16.6	19.6	17.15	14.8	17.5	17.2	17.6	16.4	**16.67**
9	Goa	13.5	15.3	18.4	29.9	18.36	13.9	16.5	29.5	-2.7	NA	**10.67**
10	Gujarat	19.8	16.6	17	11.7	15.99	18	22.5	14	12.7	NA	**16.38**
11	Haryana	13.5	18.6	17.6	20.5	17.35	23.8	16.3	15.2	13.8	12.6	**15.93**
12	Himachal Pradesh	12.1	10.5	10	14.7	11.69	18.2	18.1	12.3	12.7	11.1	**14.17**
13	Jammu & Kashmir	8.5	9.4	11.1	11.6	10.07	12.9	20.7	18	13.2	13.5	**15.37**
14	Jharkhand	0.6	9.7	27.1	2.5	4.46	14.3	24.7	6.7	11.6	16.2	**13.48**
15	Karnataka	17.6	16.5	19.2	14.6	16.89	8	22.5	10.4	13.7	11.7	**12.46**
16	Kerala	14.8	12.3	14	17	14.43	14.4	13.2	16.7	13.7	NA	**14.44**
17	Madhya Pradesh	9.7	16.5	11.9	22.8	14.44	15.2	15.1	18.9	20.3	21.9	**18.07**
18	Maharashtra	18.1	20.5	17.6	9.3	15.7	13.7	23.3	12	12.4	11.4	**14.02**
19	Manipur	11.6	7.1	9.9	9.3	9.33	11.5	8.8	21.5	12	NA	**12.71**
20	Meghalaya	10.5	19.2	11.9	20	14.8	7.6	15.6	17.8	6.1	15.1	**11.42**
21	Mizoram	11	10.5	15.9	21.8	14.15	13.6	22.4	7.9	21.3	NA	**15.05**
22	Nagaland	12.8	10	11.1	17.5	12.56	10.6	11.7	17.9	12.9	13.1	**13.03**
23	Odisha	8.2	19.5	26.4	14.8	15.81	6.5	21.3	7.3	19.1	11.6	**11.75**
24	Puducherry	41.8	4.1	10.1	8.9	11.14	24.4	6.3	10.6	13.3	33.7	**14.88**
25	Punjab	11.4	17.8	20.1	14.1	15.49	13.8	14.7	12.6	10.8	11.6	**12.62**
26	Rajasthan	11.3	20.8	13.8	18.4	15.63	14.6	28.7	20	13.8	11.8	**16.87**
27	Sikkim	14.7	8	14.3	30.7	15.07	95.4	21.5	21	17.5	18.1	**26.73**
28	Tamil Nadu	18.2	20.9	13.4	14.5	16.49	19.7	22.8	14.2	11.4	14.9	**16.1**
29	Tripura	10.6	10.4	8.3	15.7	10.95	13.2	17	18.8	14	NA	**15.59**
30	Uttar Pradesh	12	14.7	13.2	17	14.11	18	14.8	14.6	13.7	13.8	**14.9**
31	Uttarakhand	21	21.1	23.3	20.7	21.5	25.8	19.4	17.3	9.5	13.6	**16.21**
32	West Bengal	10.4	13.8	14.6	13.5	12.97	16.7	16.2	14	16	14.1	**15.36**

have recorded negative growth. However, Delhi, which was in negative zone earlier stepped forward and was placed in the fourth position in terms of growth. States like Madhya Pradesh, Sikkim, Chhattisgarh, and Jharkhand were the leading states in attaining outstanding growth in their primary sector.

The manufacturing sector of ten states in India grew at double-digit during the pre-recession period (Table 3). Among them, growth of Uttarakhand was highest with around 20% rate of growth. Industrial outputs of Bihar and Nagaland grew almost at same rate. Only one state, Chandigarh, exhibited negative growth while the growth of

Table 2. Agriculture Growth in India : State Wise Analysis

No.	States	Pre-RecessionPeriod					Post-Recession Period					
		2005	2006	2007	2008	CAGR	2009	2010	2011	2012	2013	CAGR
1	Andaman & Nicobar	-48.01	47.99	8.14	8.2	-28.19	0.79	8.53	6.29	7.25	4.77	**5.46**
2	Andhra Pradesh	12.79	3.55	36.16	1.06	11.44	0.59	8.78	-0.83	13.3	10.57	**6.2**
3	Arunachal Pradesh	-8.53	29.18	37.8	-20.5	0.09	-3.3	38.79	17.5	-5.97	10.11	**9.43**
4	Assam	4.48	3.59	5.85	3.16	4.25	13.4	6.06	9.78	8.68	9.04	**9.34**
5	Bihar	-24.96	55.09	-16.3	40.95	-4.57	-29	36.61	26	18	-21.6	**-1.6**
6	Chandigarh	6.17	0.02	0.9	12.91	4.64	-28	-10.6	-33.4	-16	-0.86	**-20**
7	Chhattisgarh	30.71	9.45	20.82	-24.2	-0.96	19.4	47.37	6.06	20.5	3.31	**17.7**
8	Delhi	-6.81	2.3	-5.92	-1.44	-3.21	55.2	16.19	3.38	3.54	6.52	**14.6**
9	Goa	48.92	-37.6	7.03	-17.7	-11.19	2.00	2.81	3.42	-8.37		**-0.2**
10	Gujarat	50.15	-1.81	19.26	-15.9	5.41	-1.9	47.14	10.8	15.3		**12.2**
11	Haryana	-3.9	28.81	-0.35	14.6	7.75	-3.2	10.55	16	-2.76	6.45	**4.89**
12	Himachal Pradesh	10.32	-5.78	20.89	-2.66	4.14	-29	47.54	-10.6	20.1	31.06	**3.82**
13	Jammu & Kashmir	0.77	2.71	2.05	8.25	3.33	-0.8	19.02	4.83	-7.74	10.79	**4.45**
14	Jharkhand	7.01	26.41	11.45	37.08	19.08	-15	9.55	58.1	13.4	17.51	**12.5**
15	Karnataka	20.96	-6.34	26.41	3.62	8.89	8.02	32.34	-14.9	-6.18	1.89	**2.04**
16	Kerala	11.23	-14.5	-3.47	4.06	-2.41	-4.6	-13.7	-0.81	10		**-2.4**
17	Madhya Pradesh	15.02	5.12	-3.26	18.44	7.83	18.3	0.41	38	38.8	48.27	**26.6**
18	Maharashtra	20.65	30.25	30.06	-35.3	0.8	5.2	45.74	-1.31	-3.52	7.82	**8.61**
19	Manipur	1.39	0.1	23.22	21.69	10.15	30.3	-40.5	6.02	5.78		**-8.8**
20	Meghalaya	12.65	3.16	-1.56	9.73	5.55	3.11	3.96	10.6	5.27	11.42	**6.76**
21	Mizoram	15.59	4.33	36.66	32.58	20.55	21.9	36.9	-7.37	-0.64		**8.02**
22	Nagaland	4.32	1.39	0.82	13.48	4.66	6.42	17.63	10.9	7.93	8.19	**10.1**
23	Odisha	6.81	3.53	9.99	3.61	5.89	17.2	4.2	-10.2	23.7	-6.78	**4.07**
24	Puducherry	7.52	27.75	2.59	70.16	21.57	-44	53.11	-25.8	28.5	50.24	**-8.3**
25	Punjab	1.73	5.72	7.82	3.92	4.72	-0.9	3.2	3.6	0.11	0.65	**1.31**
26	Rajasthan	0.76	15.74	3.1	8.93	6.69	-6.1	78.41	-0.58	0.14	0.26	**8.79**
27	Sikkim	8.8	0.31	8.62	9.69	6.64	8.98	10.36	79.9	4.36	6.91	**17.8**
28	Tamil Nadu	24.75	28.66	-9.1	-4.99	6	12.9	15.16	21	-24.2	15.55	**4.78**
29	Tripura	5.41	16.51	36.24	7.42	14.95	3.55	18.67	17.3	8.89		**9.23**
30	Uttarakhand	7.42	9.87	4.06	-10.4	1.61	23	9.03	7.72	5.83	7.6	**10.4**
31	Uttar Pradesh	4.69	4.79	7.09	7.75	6.05	-1.2	9.6	11.6	9.68	5.27	**6.78**
32	West Bengal	4.06	3.13	12.35	-5.87	2.77	15.3	-4.2	1.01	7.36	11.07	**5.66**

Assam was negligible. Manufacturing growth of Kerala and Jammu and Kashmir were between the range of 3-4%. During the post recessionary years, most of the Indian states failed to find momentum in their industrial or manufacturing production. Only four states- Sikkim, Jharkhand, Uttarakhand, and Bihar recorded more than 10% growth in the activities of their secondary sector. Manufacturing growth in most of the states was marginal and in many cases, it was less than five percent. Two states Manipur and Delhi reported negative growth in their industrial production. Galloping manufacturing output might have its impact on the economic growth of these economies.

Table 3. Manufacturing Growth in India : State Wise Analysis

No.	States	Pre-RecessionPeriod					Post-Recession Period					
		2005	2006	2007	2008	CAGR	2009	2010	2011	2012	2013	CAGR
1	Andaman & Nicobar	18.3	14.08	17.06	-16.31	**4.22**	-0.12	4.12	0.7	6.16	1.62	2.45
2	Andrapradesh	10.05	17.6	10.87	7.15	**10.83**	3.04	9.97	11.4	-0.46	2.44	5.09
3	Arunachal Pradesh	4.54	-2.87	16.84	22.76	**9.01**	-6.85	12	-2.4	15.28	9.64	4.82
4	Assam	-3.53	-0.06	0.68	6.92	**0.78**	8.82	1.61	3.53	3.34	4.28	4.26
5	Bihar	9.6	16.18	19.47	15.89	**14.81**	14.07	28.4	3.12	0.95	11.5	10.89
6	Chandigarh	7.22	35.66	3.85	-27.73	**-9.18**	21.68	-5.9	4.67	0.027	1.07	3.59
7	Chhattisgarh	3.81	32.73	7.38	14.19	**10.69**	-2.79	2.36	9.97	2.96	6.42	3.61
8	Delhi	5.52	7.11	5.09	5.8	**5.83**	0.89	-6.4	-4.1	1.76	1.36	-1.4
9	Goa	4.89	14.6	3.89	7.23	**6.69**	10.51	9.64	3.42	-4.86		3.42
10	Gujarat	14.64	9.43	10.81	6.52	**9.93**	21.25	3.16	3.69	7.12		6.6
11	Haryana	8.49	9.22	6.59	3.5	**6.52**	11.41	5.6	4.88	4.42	3.57	5.91
12	HimachalPradesh	8.51	13.54	9.28	9.51	**10.04**	13.99	3.91	5.09	3.45	2.43	5.63
13	Jammu Kashmir	4.63	9.77	6.88	0.41	**3.36**	4.37	-2.6	4.15	4.81	1.18	2.31
14	Jharkhand	8.13	8.86	12.28	8.78	**9.39**	21.05	14.9	2.4	11.53	11.6	12.01
15	Karnataka	8.37	17.05	10.84	5.14	**9.44**	-1.46	9.53	3.11	0.39	2.12	2.61
16	Kerala	9.91	6.72	7.79	0.44	**3.89**	7.82	13.6	7.18	18.41		9.06
17	Madhya Pradesh	4.7	16.71	5.93	18.98	**9.7**	6.86	6.86	5.05	5.48	2.15	5.25
18	Maharashtra	18.93	15.82	11.73	-1.06	**10.56**	6.89	13.6	0.38	2.72	8.78	6.29
19	Manipur	7.36	2.36	2.97	2.05	**3.21**	7.18	-15	4.45	1.98		-0.93
20	Meghalaya	8.85	12.9	9.26	17.69	**11.69**	6.08	6.67	25.3	-1.73	11.9	9
21	Mizoram	28.45	1.1	12.97	16.78	**9.08**	3.31	3.87	2.35	2.11		2.31
22	Nagaland	16.97	14.87	10	15.54	**14.07**	7.51	-15	12.9	8.5	7.72	3.25
23	Odisha	2.63	21.29	17.43	5.25	**8.46**	-2.65	8.1	4.94	9.48	5.74	4.95
24	Puducherry	34.88	-6.04	6.58	4.93	**7.54**	15.38	-6.2	1.79	2.4	2.68	2.78
25	Punjab	11.16	21.42	16.61	4.23	**11.38**	8.77	6.28	2.35	2.73	2.55	4.48
26	Rajasthan	8.57	17.69	2.62	7.09	**7.28**	10.68	4.22	2.11	4.6	3.55	4.96
27	Sikkim	11.77	7.06	9.92	34.85	**13.02**	172.8	16.8	10.7	8.68	9.37	29.35
28	Tamilnadu	14.08	13.44	3.86	-2.06	**6.69**	20.93	15.3	4.09	2.12	3.11	8.65
29	Tripura	10.49	11.95	0.97	9.69	**5.86**	12.6	0.19	0.61	2.75		3.03
30	Uttarakhand	27.33	20.3	23.08	12.39	**19.96**	19.67	13.8	12	5.23	6.3	11.18
31	Uttar Pradesh	10.57	13.47	8.6	1.37	**6.4**	7.31	6.84	0.36	2.03	0.36	3.29
32	West Bengal	3.3	8.71	6.85	-1.75	**4.04**	9.68	5.82	-2	4.38	8.74	5.17

Like manufacturing sector, 10 states registered double-digit growth in respect of mining production in India. Among them growth of Andaman and Jammu Kashmir was amazing. The mining activities of these two states expanded at a rate of over 30%. The mining activities of six states were contracted and no data for four states with respect to these economic activities were available. Gujarat, West Bengal, and Tamilnadu were the premier States in India, which recorded negative growth in mining production.

Mining activities of states were not found to be much dynamic during the years succeeding the global recession of 2008 (Table 4). Jammu and Kashmir, Sikkim. and Rajasthan registered a terrific growth of over 25% in

production. More than 10% of the growth was achieved by Himachal Pradesh and Tripura. Like industrial sector, the performance of the mining sector in most of the states disappointed the investors. Haryana, Goa, Karnataka, and Punjab, all these states have met severe contraction in their mining activities during the resilient years.

Uttarakhand and Meghalaya were the two prominent States in India in attaining larger growth in construction activities of the country. Chhattisgarh and Odisha were also found outstanding in this regard. Nine other states including Punjab, Madhya Pradesh, Rajasthan, Karnataka, and Gujarat recorded significant growth during the

Table 4. Growth of Mining Sector in India : State Wise Analysis

No.	States	Pre-RecessionPeriod					Post-Recession Period					
		2005	2006	2007	2008	CAGR	2009	2010	2011	2012	2013	CAGR
1	Andaman & Nicobar	110.4	72.64	12.11	-6.8	**35.24**	-27.9	6.41	6.99	201.9	84.58	35.76
2	Andrapradesh	10.54	49.31	7.16	-15.55	**8.66**	5.68	16	48.6	59.7	28.43	29.74
3	Arunachal Pradesh	24.78	-3.02	10.45	2.63	**7.82**	29.4	65.1	21	20.98	12.66	25.85
4	Assam	1.86	1.35	3.97	-15.92	**-2.96**	2.79	8.27	-11	11.87	0.92	12.31
5	Bihar	66.64	-17.27	-1.85	121.8	**24.97**	-27.3	34.1	7.73	9.37		11.31
6	Chandigarh	NA	NA	NA	NA	**0**		3.13	13.2	5.96	6.01	7.41
7	Chhattisgarh	6.56	11.92	4.95	10.24	**8.35**	2.41	21.3	-0.6	3.56	6.02	6.97
8	Delhi	NA	NA	NA	NA	**0**		-8.31	17.9	-2.99		6.24
9	Goa	5.88	56.89	1.5	17.77	**17.57**	24.65	26.6	8.05	7.53	7.94	5.54
10	Gujarat	2.28	0.74	0.61	-5.33	**-0.51**	0.81	5.81	3.92	0.4	11.03	4.6
11	Haryana	84.16	-4.46	3.8	-7.75	**11.05**	-49.6	-4.94	13.3	8.78	7.75	4.53
12	HimachalPradesh	3.03	8.11	-2.21	8.84	**4.26**	82.24	3.76	0.81	1.52	2.36	4.09
13	Jammu & Kashmir	45.46	41.04	12.97	29.83	**31.3**	-7.45	3.66	6.06	1.43	-0.98	3.02
14	Jharkhand	-12.31	-6.12	34.01	-15.56	**-3.23**	6.73	9.14	1.14	7.12	-11.22	1.8
15	Karnataka	-2.28	5.09	42.24	-3.43	**7.97**	-9.88	-3.16	1.79	9.6	-2.19	1.74
16	Kerala	27.73	-9.28	3.13	9.67	**6.28**	34.56	-2.14	2.44	2.25	2.07	1.45
17	Madhya Pradesh	0.87	8.96	11.17	6.24	**6.68**	3.66	3.71	31.6	-33.12		0.5
18	Maharashtra	2.35	2.57	0.79	-3.31	**0.54**	5.26	-1.27	-5.4	-15.69	4.06	0.24
19	Manipur	NA	NA	NA	NA	**NA**	NA	NA	NA	NA	NA	NA
20	Meghalaya	0.72	5.53	13.24	-14	**0.32**	4.98	NA	NA	NA	NA	NA
21	Mizoram	-31.3	89.84	29.54	49.67	**17.48**	38.81	NA	NA	NA	NA	NA
22	Nagaland	8.57	15.78	11.4	6.32	**10.42**	12.83	NA	NA	NA	NA	NA
23	Odisha	8.68	19.97	3.94	8.95	**10.11**	5.49	16.6	7.55	-21.1	1.25	-0.01
24	Puducherry	NA	NA	NA	NA	**0**		-4.19	-7	0.31	6.16	-0.11
25	Punjab	0.69	0.91	22.89	22.19	**10.7**	-15	3.6	1.03	-14.92		-2.42
26	Rajasthan	5.48	42.96	7.52	-6.72	**9.86**	19.1	1.17	11.6	-11.24	-0.03	-7.51
27	Sikkim	4.34	3.49	6.44	63.25	**15.65**	7.65	-3.59	-22	0.86	13.4	-9.69
28	Tamilnadu	-4.86	4.36	1.17	-1.78	**-0.4**	9.3	14.7	-30	-6.38	-4.18	-11.1
29	Tripura	2.09	8.68	2.76	13.17	**6.5**	10.14	8.44	-40	-40.07	8.23	-24
30	Uttarakhand	32.59	-4.68	1.7	-18.45	**-0.29**	-14.3	-2.56	-48	1.29	1.78	-25.6
31	Uttar Pradesh	18.35	1.55	-3.88	14.85	**6.98**	-14.9	-7.02	-3.3	-68.56	NA	-36.8
32	West Bengal	0.35	4.48	-13.08	2.96	**-1.88**	-0.19	-58.7	13.6	-14.22	-0.02	-40.5

period. The construction activities of only two states Tripura and Assam were negative in growth. The growth of this sector in Kerala and West Bengal was marginal only (Table 5).

Some recoveries were evident in the construction activities of some states. Almost all northeastern states were at the top of the list in terms of growth. Sikkim, like in other sectors, secured outstanding growth in construction activities also. However, a large number of states in India are still struggling to maintain reasonable growth in this sector. Most of them are able to attain a very marginal rate of growth of two to five percent. The construction activities of two states, Andaman and Chhattisgarh are yet to recover from the recession shocks.

Table 5. Growth of Construction Sector in India : State Wise Analysis

No.	States	Pre-Recession Period					Post-Recession Period					
		2005	2006	2007	2008	CAGR	2009	2010	2011	2012	2013	CAGR
1	Andaman & Nicobar	-14.73	18.26	13.47	1.27	**2.91**	0.52	2.21	15.84	3.19	-18.63	-0.31
2	Andhra Pradesh	5.21	17.68	7.44	13.62	**10.79**	2.55	17.72	16.55	-5.62	3.48	6.23
3	Arunachal Pradesh	10.91	13.79	14.22	0.88	**9.69**	2.96	12.95	3.82	-0.83	2.34	4.06
4	Assam	-6.77	-1.83	-6.52	-4.31	**-4.9**	22.1	5.6	3.83	3.23	3.6	7.26
5	Bihar	-6.28	6.42	24.68	20.01	**9.93**	-4.07	22.77	-9.2	1.83	3.64	1.97
6	Chandigarh	-7.43	22.54	11.66	0.49	**5.68**	18.69	1.01	-1.79	-1.55	0.33	2.84
7	Chhattisgarh	18.39	50.9	12.65	2.43	**19**	-10.9	-5.14	-7.62	1.28	5.31	-3.77
8	Delhi	8.3	7.21	10.76	-3.15	**5.51**	3.4	14.79	-1.04	0.98	1.68	3.69
9	Goa	5.19	10.35	3.52	5.68	**6.13**	8.57	8.13	2.68	1.72	-	4.14
10	Gujarat	18.47	10.43	7.87	4.27	**10.04**	25.67	0.69	2.78	6.38	-	6.4
11	Haryana	7.66	9.09	8.44	2.65	**6.9**	10.6	8.04	2.62	4.31	2.52	5.54
12	Himachal Pradesh	6.8	13.24	7.18	27.08	**13.08**	35.46	11.45	7.18	3.17	2.58	10.93
13	Jammu & Kashmir	11.19	14.6	8.69	10.3	**11.16**	10.36	2.82	5.85	5.86	-3.45	4.09
14	Jharkhand	3.21	-7.25	0.84	23.38	**3.97**	7.26	29.54	17.27	-1.81	8.39	11.25
15	Karnataka	3.61	24.02	6.54	12.47	**11.19**	-5.93	6.23	3.8	0.87	1.8	1.18
16	Kerala	2.08	7.15	17.16	2.1	**6.81**	0.33	11.82	4.34	9.14	-	4.93
17	Madhya Pradesh	7.16	28.29	4.54	18.19	**13.87**	6.75	-0.27	3.89	1.78	-0.13	2.34
18	Maharashtra	24.92	18.78	8.7	-4.33	**10.97**	7.04	13.74	-4.17	-0.12	6.77	4.29
19	Manipur	54.58	-42.73	64.24	31.41	**1.57**	26.74	100.2	52.74	1.62	-	28.89
20	Meghalaya	74.85	56.88	11.7	-4.67	**28.16**	19.68	11.48	2	12.36	13.43	11.52
21	Mizoram	2.04	16.55	19.67	-3.12	**7.99**	-2.83	6.62	33.25	14.95	-	9.12
22	Nagaland	20.47	13.55	13.37	-13.27	**6.82**	59.45	-22.8	9.34	4.07	4.42	5.36
23	Odisha	2.53	26.62	33.04	13.36	**17.84**	-6.74	5.3	12.44	10.97	7.1	5.36
24	Puducherry	5.55	5.44	6.67	1.82	**4.84**	2.3	1.42	8.28	2.6	2.54	3.37
25	Punjab	10.12	24.32	20.19	3.16	**13.9**	12.04	9.08	3.08	2.95	3.08	5.92
26	Rajasthan	10.16	23.61	2.91	11.69	**11.66**	13.26	-4.93	3.8	1.1	-0.61	2.19
27	Sikkim	2.34	7.8	14.66	9	**8.29**	1251	41.97	13.26	0.22	2.8	64.95
28	Tamil Nadu	15.11	18.75	0.59	-1.31	**7.62**	29.18	12.31	1.42	1.12	4.58	8.88
29	Tripura	-28.68	15.5	8.23	6.3	**-3.74**	16.6	22.73	25.51	28.21	-	17.78
30	Uttarakhand	46.66	26.52	46.05	20.96	**34.26**	24.43	13.91	10.59	6.38	3.1	11.26
31	Uttar Pradesh	5.33	19.87	9.33	-7.8	**5.78**	15.86	8.31	-0.97	1.13	-0.73	4.35
32	West Bengal	-2.32	11.93	12.98	0.89	**5.46**	11.83	6.35	-3.24	6.48	5.45	5.15

Most of the states in India depended on service sector for their economic growth (Table 6). They were giving utmost focus to the development of the sector during the pre-recession period. Fifteen states recorded two-digit growth of their service sector production. Most of the industrially advanced states like Uttarakhand, Tamilnadu, Gujarat, Karnataka, and Andhra Pradesh gained significant growth in the tertiary segment of their economy. Moreover, many small states in India- Delhi, Kerala, and Goa were able to make remarkable growth in the sector. Agricultural state Jharkhand is the only one state in India, which failed to gain in the service sector boom of pre-recession period.

Table 6. Growth of Service Sector in India : State Wise Analysis

No.	States	Pre-RecessionPeriod					Post-Recession Period					
		2005	2006	2007	2008	CAGR	2009	2010	2011	2012	2013	CAGR
1	Andaman & Nicobar	7.16	2.43	7.52	41.02	**12.94**	22.01	9.92	11.38	8.62	6.62	**11.5**
2	Andhra Pradesh	11.04	12.48	10.3	9.53	**10.83**	7.07	15.04	8.13	6.95	7.2	**8.8**
3	Arunachal Pradesh	6.67	8.46	7.85	11.87	**8.68**	34.49	-8.05	8.5	1.32	9.05	**7.5**
4	Assam	7.93	8.55	7.79	6.93	**7.8**	10.01	11.71	6.2	7.81	6.95	**8.5**
5	Bihar	1.08	11.97	8.93	12.05	**8.33**	12.16	10.01	12.1	14.99	17.26	**13.3**
6	Chandigarh	11.5	10.62	8.18	16.56	**11.64**	3.26	2.24	3.27	4.41	11.01	**4.75**
7	Chhattisgarh	6.42	11.38	9.88	11.7	**9.81**	9.53	15.43	5.77	6.27	8.13	**8.93**
8	Delhi	11.27	13.66	12.58	14.41	**12.97**	9.4	9.4	11.21	10.3	10.28	**10.1**
9	Goa	7.51	10.58	7.89	15.31	**10.24**	11	25.27	35.56	10.26	NA	**15.5**
10	Gujarat	12.25	19.09	12	11.88	**13.73**	6.09	13.63	11.97	12.7	NA	**8.64**
11	Haryana	15.51	11.32	13.62	11.57	**12.98**	17	9.15	9.82	8.25	8.19	**10.4**
12	Himachal Pradesh	9.95	11.08	7.51	10.29	**9.69**	12.4	9.91	14.69	7.35	6.84	**10.2**
13	Jammu & Kashmir	10.08	6.47	9.29	11.55	**9.32**	6.94	8.92	12.28	7.55	7.01	**8.51**
14	Jharkhand	-22.52	-12.46	61.03	-31.78	**-11.99**	5.17	22.3	-13.5	6.69	3.2	**3.53**
15	Karnataka	12	10.53	13.75	9.78	**11.5**	2.05	8.71	7.28	10.5	7.99	**7.23**
16	Kerala	11.65	12.26	11.43	8.07	**10.83**	11.67	7.09	9.4	5.46	NA	**6.58**
17	Madhya Pradesh	4.61	9.04	7.52	10.3	**7.83**	11.74	9.1	8.63	8.1	9.54	**9.41**
18	Maharashtra	11.32	12.23	10.54	7.96	**10.49**	11.73	8.83	7.77	8.78	9.27	**9.26**
19	Manipur	9.64	2.75	6.41	8.73	**6.82**	2.93	23.41	16.23	5.54	NA	**9**
20	Meghalaya	8.8	7.91	4.21	13.72	**8.56**	8.39	11.95	8.14	4.57	14.87	**9.48**
21	Mizoram	3.14	7.75	9.24	12.62	**8.09**	16.7	21.55	-3.66	11.09	NA	**8.33**
22	Nagaland	13.65	10.1	10.29	3.31	**9.21**	8.8	16.9	8.71	7.13	7.34	**9.67**
23	Odisha	9.43	12.11	8.63	12.65	**10.68**	9.16	10.45	6.06	6.1	8.65	**8.06**
24	Puducherry	17.08	15.71	11.63	8.11	**13.03**	20.86	16.23	9.21	18.17	11.88	**15.1**
25	Punjab	6.64	8.69	7.52	9.57	**8.09**	8.63	9.44	11.82	7.95	8.98	**9.35**
26	Rajasthan	9.1	9.73	8.88	12.89	**10.13**	8.3	12.35	9.79	6.45	7.05	**8.75**
27	Sikkim	10.71	7.36	7.51	9.57	**8.77**	24.52	-2.66	3.77	7.44	6.43	**7.25**
28	Tamil Nadu	14.02	16.57	9.33	10.56	**12.56**	6.9	12.8	8.77	6.05	9.31	**8.72**
29	Tripura	4.88	6.53	6.59	11.35	**7.29**	12.5	10.45	12.24	12.76	NA	**9.37**
30	Uttarakhand	14.84	12.72	20.41	17.7	**16.35**	19.19	8.81	8.67	6.3	5.5	**9.5**
31	Uttar Pradesh	7.13	8.72	8.81	11.7	**9.07**	9.74	9.79	7.96	8.09	8.12	**8.73**
32	West Bengal	9.28	9.78	8.69	10.04	**9.45**	7.86	8.36	8.07	8.3	9.44	**8.4**

Compared to any other sector of the economy the service sector of Indian states was almost stable even after recession. The growth in the sector was relatively normal and equitably distributed across states in India. Seven states including smaller states - Goa, Puducherry, and Delhi attained a growth of 10 to 15% during the period succeeding the recession. It also included states having excellent tourist places - Himachal Pradesh and Andaman and Nicobar Islands. Out of the remaining 25 States, 22 States in the economy were able to maintain a growth of 7 to 10%. The service sector growth of only Jharkhand can be considered marginal.

Table 7 explains the descriptive properties of growth factors. NDP of the states has slightly increased during the post-recession phase but with increased stability. High coefficient of positive skewness indicates that the overall growth of the economy depends on the growth a few number of states. Same conclusion can be drawn regarding the performance of agriculture. With regard to the remaining sectors, the opposite trend prevailed in growth. Few reductions happened in service sector during post-recession period but at terms that are more consistent. Nevertheless, positive skewness implies services growth clustered around some states and are not uniformly distributed.

Table 7. Net Domestic Product and Growth of Contributing Sectors : Descriptive Statistics

Variable	Mean	Median	Minimum	Maximum	*SD*	C.V	Skewness
NDP Fullperiod	14.52	14.30	8.24	20.72	2.26	0.16	0.08
NDP Pre Recession	14.45	14.94	4.46	21.50	3.27	0.23	-0.74
NDP Post Recession	14.89	14.89	10.11	26.73	3.08	0.21	1.65
Agriculture Pre Recession	4.53	5.07	-28.19	21.57	9.14	2.02	-1.15
Agriculture Post Recession	5.94	6.48	-19.97	26.64	8.54	1.44	-0.59
Industry Pre Recession	7.98	8.74	-9.18	19.96	4.99	0.63	-0.86
Industry Post Recession	5.75	5.89	-1.40	29.35	5.31	0.92	2.82
Mining Pre Recession	7.79	6.83	-3.23	35.24	9.49	1.22	1.28
Mining Post Recession	0.17	0.98	-40.50	35.76	15.93	94.43	-0.48
Manufacturing Pre Recession	9.47	8.14	-4.90	34.26	7.68	0.81	1.21
Manufacturing Post Recession	8.16	5.25	-3.77	64.95	11.86	1.45	3.71
Service Pre Recession	9.55	9.75	-11.99	16.35	4.49	0.47	-3.42
Service Post Recession	9.14	8.86	3.53	15.53	2.38	0.26	0.65

Deep decline occurred in mining growth and it was centered in a few states. The remaining sectors, manufacturing and construction also exposed growth reduction during the post-recession times. The variability between states in this regard increased significantly and growth was not lead by many states according to skewness coefficient. The distributional properties of none of the growth series are found normal.

Wilcoxon matched-pairs signed-ranks test is a widely used test in before and after studies where the assumption of a normal distribution is unjustified. Hence, in this research, Wilcoxon signed rank test, using state level data, compares the net domestic product growth and growth of contributing sectors in India during pre and post-recession period. The results reported in Table 8 reveal that no statistically significant change occurred in the growth trajectory of the country between two periods. Indian states were rising up in terms of direct economic parameters until the global recession period of 2008-09. Even though some dilutions occurred in some sectors, the governmental machinery could reinstate the previous momentum in economic growth, because of which growth before and after the recession became almost same. This could be the possible explanation for the insignificance of difference in net domestic product between two periods.

Since the service sector contributes major chunk of NDP of most states at a consistent rate, there was no significant change either in share or in rate of growth in the sector between the periods (Table 8). In sectors like

Table 8. Change in Growth Factors during Pre and Post Recession Period : Wilcoxon Signed Rank test

Variable	*w+*	*w-*	*z*	Sig Value
Net Domestic Product	237	297	-0.49552	0.620
Agriculture	215	313	-0.9068	0.364
Industry	415	113	0.0024	0.004**
Mining	340	178	1.5072	0.131
Manufacturing	388	140	2.3093	0.020*
Service	334	194	1.2995	0.193

** Significant at 1% level * Significant at 5% level

agriculture and mining, we could make the same observation while comparing descriptive data and test results. However, on comparing the growth of manufacturing and construction sectors we can find statistically significant difference in growth between two periods. The growth of these two sectors declined considerably during the post-recession period.

Table 9 reports the regression results on the growth factors contributing to the Indian economic growth. Among various sectoral growth parameters the analysis found that, the economic growth of India was solely dependent on the growth of service sector during the pre-recessionary period. About 45% of the variations in state level economic growth of India is alone explained by the variations in growth conditions of the tertiary sector. Such findings contradict the findings of Dasgupta and Singh (2005) who had used the country basis data for their analysis.

Table 9. Economic Growth Contributing Factors During Pre-Recession Period: Regression results

Parameters	Coefficient	Std Error	*T*	*P*-Value	R^2
Constant	9.35686	1.39367	6.7138	<0.00001	
Agriculture	-0.0682512	0.061761	-1.1051	0.27924	
Industry	0.0589991	0.136814	0.4312	0.66985	0.451
Mining	0.066231	0.0524768	1.2621	0.21812	
Manufacturing	0.0314795	0.0829175	0.3796	0.70729	
Services	0.430975	0.113459	3.7985	0.00079*	

* Significant at 1% level

The growth conditions of Indian states during post-recession period are regressed against the growth of contributing sectors under a linear regression framework and the results are reported in Table 10. From the results, we can infer that the resilience conditions of Indian economy measured by the performance of states is influenced mainly by the performance of industry. Out of the five factors identified for measuring the impact, only industry can significantly influence the changes in growth of domestic production. Industry alone explains 52.40% of the variations in state level economic growth of India.

On interpreting the results, it is quite revealing that the development of industries is indispensable for Indian states and the sector is crucial to accelerated economic recovery. The sector tends to exert spillover impact on other sectors in the economy. It provides a transitional chance to agricultural laborers and has a multiplier effect on job creation in the services sector. The ability of the manufacturing sector to absorb excess labor from the agriculture sector and shift the same to services it renders is the driving force in the resilience process of the economy. The sector has registered notable growth even after recession but its contribution to GDP and

Table 10. Economic Growth Contributing Factors During the Post Recession Period : Regression Results

Parameters	Coefficient	Std Error	*T*	*P*-Value	R^2
Constant	11.1629	1.91346	5.8339	<0.00001	
Agriculture	0.0631516	0.0519642	1.2153	0.23518	
Industry	0.216781	0.114713	1.8898	0.06999	0.524
Mining	0.035992	0.0302181	1.1911	0.24439	
Manufacturing	0.0705612	0.058019	1.3889	0.17663	
Services	0.166721	0.189878	0.878	0.38796	

* Significant at the 1% level

employment is much below its true potential. Better policy initiatives warranting both public and private sector efforts to make India a global manufacturing hub definitely help its state economies to achieve amazing growth in industrial production and overall growth. Further, liberalization of Foreign Direct Investments in the sector can become instrumental for industrial advancement and export promotion in the whole economy.

Concluding Remarks

This paper, using the state level NDP data, reviews the growth experience of India during pre and post recessionary years, identifies the major contributing factors to its pattern of development, and investigates the potentials for further growth. The research found that India's recent growth has been the dynamism of the service sector while manufacturing has been less robust. Indian economy displayed strong resilience while many Asian economies were still struggling to find their rhythm. Services sector weathered the crisis much better than manufacturing and agriculture sectors because of which the economy firmly entered the recovery path. However, the resilience conditions of the economic performance of Indian states were influenced mainly by the performance of manufacturing sector. Hence, further growth in the sector is critical for reinstating the previous growth momentum of the economy. The road to resilient manufacturing growth demands the development of better infrastructure, innovations in technology, accessible finance, efficient knowledge management, and employability among youth.

Research/Policy Implications

This research is significant in many respects. Since governance and policies lie at the core of performance of states, the research reveals the policy issues and thrust areas in the states in detail. It also brings together latest developments in the states and highlights potential roadmap for their further growth by making recommendations to measures to improve various sectors of the economy. The research explored sectoral performance of the states, which indirectly reveal their economic backwardness and sectors lagging in development. Such information provides valid insights to policymakers at the central and state level to frame out apposite policy framework to build an environment in pursuit of equitable growth across states and sectors.

Limitations of the Study and Scope for Further Research

The findings and implications of this study are limited to the period of global recession of 2008. Adding NSDP data during different crisis times and covering longer sample period can definitely improve further analysis and

the significance of research on this issue. Moreover, the use of advanced econometric models under a dynamic regression framework can warrant better evaluation and predictions that are more accurate. All are possible and certainly valuable lines of future research.

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