

# CAPITAL FORMATION AND REGIONAL VARIATION IN INDUSTRIAL PRODUCTION OF INDIA

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## KEY WORDS

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*India is a developing country with a fast growing economy. India's GDP, percapita income and industrial production; all have been increasing over the years. But there are some obstacles in the rapid growth of the Indian economy. Regional variation in industrial production in different states of India is considered to be one of the obstacles. This creates imbalance between the states and affects the growth of the whole economy. There are many factors which are responsible for these variations. Capital formation is one of the important factors for it. In our study we find that the capital formation of a state has significant positive impact on the value of its industrial products. The states which are able to raise their investments and capital formation figure are able to raise their industrial products.*

## INTRODUCTION

Disparities in economic and social development across the regions and interregional disparities among different segments of society have been the major reasons for adopting planning in India since independence. Apart from massive investment in backward regions, various public policies directed at encouraging private investments in such regions have been pursued in the first three decades of planned development. While efforts to reduce disparities were not lacking, achievements were disproportionately low. The purpose of this study is to initiate a debate on the various issues involved with a view to explore effective corrective measure without any further delay.

Industrial sector plays a major role in the process of development of any economy. It is well known that as the economy progresses, the share of industry in the national product increases and that of agriculture comes down. At an advanced stage of development, service sector dominates even the industrial sector. We can see the importance of industry with the sectoral composition of the gross domestic product, in terms of shares of agriculture, industry and service sector. Sectoral share, at 1993-94 prices is given in Table- 1.

From the above data we can see that industry plays a very important role in the Indian economy. But the growth of industry is not the same for all the states of India. There are many factors which are responsible for the unbalanced growth of industrial production, capital formation being one of them.

Regional inequality is one of the important aspects of the economic growth which has attracted the attention of a number of economists in India as well as abroad. Removing the inequality and imbalance in the growth is one of the important objectives of economic planning. A number of economists in the country have tried to explore the extent and the reason for the regional variation and still a lot is to be done.

**Table- 1, Sectoral Composition of GDP at 1993-94 prices**

Sector	Share in GDP(%)			
	1970-71	1980-81	1990-91	2000-01
Agriculture	46.34	39.71	32.20	24.00
Industry	15.58	17.62	21.70	21.80
Services	39.07	42.66	46.09	54.20

**Source:** A study done by D V S Sastry et al.(2003) on the topic 'Sectoral Linkages and Growth Prospects, Reflecting on the Indian Economy.

Majmudar ( 1978), in his paper analyses the trends and structure of regional disparities in India over the periods 1950-51 to 1967-68. A relative low degree of regional inequality in India in per capita income and a decline in it up to 1960-61 were accompanied by a small decline in the regional disparity in the primary sector, but an increase in disparity in the secondary sector. Regional disparity in the Secondary sector was higher than in the primary sector in 1951 and in 1961. Regional disparity in income per worker was higher than in per capita income in 1951 and 1961.

According to Ahluwalia (1985) the importance of industrialization as a means of achieving rapid growth and prosperity has long been recognized in thinking of a development strategy for India, even before the formal process of economic planning was launched in the economy. As far back as 1944 the Bombay plan, an influential document reflecting the views of nationalist Indian industrialists, had stressed the importance of pushing through the extensive industrial programme in a short period of time. Industrial policies as they evolved after Independence through the various Five year plans and Industrial policy resolutions, have reflected an extensive debate on the kind of industrialization strategy to be pursued in the economy.

According to Raphael (1998); in recent years there has been a significant shift in the Indian industrial strategy, from a heavily regulated and inward-oriented structure towards significant liberalization in both domestic and trade policy. At the same time, Indian industry has sustained its historically impressive growth performance. The two waves of liberalization; in the 1980s and after 1991; have been associated with significant structural change. There is some question, however, as to whether this change in strategic orientation is consistent with rising per capita incomes. This paper reviews these changing strategic perspectives and the economic performance of the industrial sector in the post-Independence period. It concludes that most studies which have been undertaken on Indian industrialization have been macroeconomic in nature and that there has been a poor tradition of microeconomic research into the determinants of industrial competitiveness. Ravallion (1998) argues that this is indeed the case when analyzing the effect of inequality on economic growth in rural China. Hence, it is important to undertake a more disaggregated analysis of trends in inequality and poverty in India. In his paper he has done this at the state level. He calculated the real mean consumption, Gini index, and the headcount ratio (H) for rural and urban sectors separately and for

the two together for 14 Indian states. He discovered that movements in aggregate consumption, inequality and poverty measures are actually the outcome of these measures moving in opposite directions in some states. He also discovered that notwithstanding this, inequality poverty and mean consumption measures appear to be converging across states in levels (but much less so in terms of ranks). Further in some cases, inequality was acting as a constraint on growth in those states with high Gini coefficients were also those with poor growth performance.

Manuela, Rosenblatt and Stern (2002), in their paper explained that during the last two decades, India has been successful in establishing a broadly pro-poor growth pattern. To a large extent, this success can be attributed to a shift in the local consensus on the role of the state and a decision to gradually open India's economy to the rest of the world. Compared to the past, India's government today is less active in directing the economic activities of individuals in society, and more active in supporting human capital development as well as the development of domestic and external markets for goods and services. This has already translated into faster growth and poverty reduction and notable improvements in the education and health status of a significant share of the Indian population. Some of the growth impact of this investment in human capital is yet to be realized, as successive generations take their increased levels of schooling to the workplace.

Dholakia (2003) in his paper examines the trends in regional disparity in India's economic and human development over the past two decades, and the direction of their causality. The Indian regional data suggest a two-way causality between human and economic development. The paper argues that the Planning Commission and the Finance Commission need not be unduly concerned about regional imbalance in human or economic development. Emphasis on economic growth is likely to address the issue of disparities in its come and human development.

According to Singh et al. (2003), there are concerns that regional inequality in India has increased after the economic reforms of 1991. This concern is supported by various statistical analysis. In particular, human development indices do not show the same increase in regional inequality. Furthermore, looking at consumption and credit indicators for regions disaggregated below the state level also suggests that inequality trends may not be as bad as suggested by the State Domestic product data, although the greater strength of the economies of the western and southern state emerges in the results.

Sharma (2005), explains that poor financial intermediation implies that local wealth will matter to local investment. This imperfect mobility of capital constraints the growth of an economy by preventing investment from flowing into regions with the highest returns. In addition, it acts to increase regional inequality. In India, given the facts that small firms seems to borrow substantially from the informal sector, this geographic fragmentation of credit markets serving industry is a real possibility. In his paper, he used a natural experiment to examine if credit constraints on manufacturers in India are greater in regions with less wealth. The results from the natural experiment provide clear evidence in favour of this credit market imperfection. When there was an increase in the availability of cheap formal sector credit, investment in small scale factories responded more positively in lower wealth districts. This paper contributes to the literature that examines whether growth in developing countries is constrained by capital market imperfections by giving direct evidence that poor regions grow more when there is an increase in the supply of capital. The results of this study can help explain why regional inequalities in industrialization persist in India. Because

small scale industry is a much larger employer than the large industry, the finding that growth in small manufacturing establishments is constrained by regional wealth has important implications for the removal of regional inequalities in income. It shows that this inequality can be lowered by improving the flow of credit to small manufacturers.

According to Rao, H. (2006) the interstate disparities in the gross state domestic product (GSDP) have been increasing in particular in the post economic reform period. These disparities have been largely contributed by the large variability in the contributions made by the secondary and tertiary sectors. For reducing interstate disparities, there is an urgent need for enhancing the levels of public investment for improving the social and economic infrastructure in the backward regions.

Lall (2007), examined the contribution of publicly supplied infrastructure to sub national regional growth in India. He first developed and numerically examined a regionally disaggregated model of economic growth to understand the dynamics of private capital and public infrastructure. For the empirical analysis, he used a pooled data set for Indian states to examine if publicly supplied infrastructure is a significant determinant of regional growth and whether there are spatial variations in the productivity effects of infrastructure. The main findings are that transport and communication infrastructure expenditures are significant determinants of regional growth, and the positive benefits accruing from these expenditures come not only from investments made by individual states, but there are positive externalities from network expenditures made by neighboring states. Finally, the out of sample simulated regional growth predictions show divergence in private capital formation between lagging and leading states.

Das, D. (2008), in her work compared productivity of 15 major states of India based on data of annual survey of industries from 1979-80 to 2003-04. Since the impact of reform is not the same for different types of industries; industries have been categorized into three categories – Traditional, Basic and High-tech industries and production frontier has been estimated and productivity has been computed for the three categories separately. She observed that basic industry is the most inefficient industry in terms of overall technical efficiency. However, in terms of scale efficiency, basic industry is the most efficient industry and traditional industry is the most inefficient industry. But, the scale efficiency of traditional industry has improved after reform. From MPI (2) results, it is observed that regional differences in TFP (3) growth persist and the variation has increased in the post-reform period. However, variation in TFP growth is due to increased variability in the rate of technical progress across states in the post-reform period and not due to variation in technical efficiency. Technical efficiency has, in fact decreased after reform for all the three industries indicating tendency of convergence of overall technical efficiency of the states' manufacturing.

Joshi (2009), in his article highlights that it is not only the economic performance that generates inequalities, there are many factors such as natural resources, historical background, social values and norms, political situations, environmental conditions and many more which make the performance of one state higher or lower as compared to other states. The article also captures the overview of the type and the extent of regional disparities among Indian states. Although the regional disparity can not be eliminated, it can be reduced. The article suggests that the efforts from the union and state government should aim at eliminating the disparities which exist due to underutilization of the capacity, lack of opportunities, inability to break the vicious circle etc.

Thus, there is no dearth of literature on the subjects related to variation in the economic growth and its impact on the entire economy, but not much has been done to analyze empirically the interstate variation in the industrial growth of the country. There is need to examine the extent of interstate variation, trends of the disparities in industrial growth, factors responsible for the variation in industrial growth and the impact of the interstate variation in industrial growth on the overall economic growth of the country.

One of the objectives of the five year plans of the country is to industrialize the economy so that the rate of economic growth of the country may increase. It is argued that during the process of economic development of the country the industrial growth of different region is not uniform. Some states have witnessed a high rate of industrial growth where as in other states the figures for industrial growth are small. The result is the imbalanced regional growth of the country.

The present paper analyses the regional variation in industrial growth during the period 1981-82 to 2002-2003. The variation in industrial growth has been examined by considering the value of industrial products of 27 different states.

Table 2 shows the Gini Coefficients and the coefficient of variation of value of industrial products for different years. It is clear from the table that Gini coefficient and the coefficient of variation, both, are very high. This shows that there exists large variations in the values of industrial products of different states in all these years.

**Table- 2, Gini Coefficients and Coefficients of Variation of Values of Industrial Products in Different Years**

Years	Gini coefficients	Coefficient of variations
1981-82	0.62	129.69
1885-86	0.62	130.03
1990-91	0.62	129.97
1995-96	0.63	141.49
2000-01	0.59	120.36
2002-03	0.57	101.68

Gini coefficient remained stable from the year 1981-82 to 1990-91 and then increased in the year 1995-96, but again decreased in the year 2000-01 and 2002-03. The same is the case for the values of coefficient of variation. Thus, we may say that in spite of some slight decrease in the value of Gini coefficient and coefficient of variation in some years there exists large variation in the value of industrial products of different states in the given years.

Although there are many factors like political conditions, geographical conditions and economical conditions, which are responsible for these variations; in this paper only capital formation as a factor responsible for regional variation in industrial growth of India has been considered. For this the empirical relationship between the value of industrial product (VIP) and the Gross capital formation (CF) has been established and the relationship between these variables have been fitted by OLS method and significance coefficient of the relationship are examined by appropriate statistical techniques.

Table (3) shows the value of the industrial products and the gross capital formation of the different states in 1981-82. From the table we see that the value of gross capital formation is the highest in Maharashtra (190296.00 lakhs) and the lowest in the state of Manipur (28.00 lakhs). The average value of the gross capital formation of different states is 41883.46lakh. The coefficient of variation of it has been estimated to be 115.95 which shows that there is wide variation in the gross capital formation of different states.

**Table 3, The Value of Industrial Products and Gross Capital Formation of Different States for the Year 1981-82**

Sl No.	State/UT	Value of Industrial Products (VIP) (in Rs. Crore)	Gross Capital Formation(CF) (in Lakh)
1	2	3	4
1	Andhra Pradesh	1061.40	45974.00
2	Assam	316.20	16331.00
3	Bihar	1378.00	70244.00
4	Goa	84.80	10724.00
5	Gujarat	1532.20	66685.00
6	Haryana	504.30	18053.00
7	Himachal Pradesh	47.10	4162.00
8	Jammu & Kashmir	53.10	3521.00
9	Karnataka	858.10	43174.00
10	Kerala	611.60	17921.00
11	Madhya Pradesh	1135.90	90739.00
12	Maharashtra	4170.30	190296.00
13	Manipur	3.10	28.00
14	Meghalaya	11.00	817.00
15	Orissa	403.30	29221.00
16	Punjab	667.00	38156.00
17	Rajasthan	616.60	31798.00
18	Tamil Nadu	2104.70	108315.00
19	Tripura	6.90	131.00
20	Uttar Pradesh	1492.80	125096.0
21	West Bengal	2091.60	81630.00
22	Andaman & Nicobar Islands	4.60	203.00
23	Delhi	577.60	10804.00
24	Pandichery	21.40	1180.00

**Sources:-** VIP from Central Statistical Organisation (CSO) website as on 28.02.2008 and Gross capital formation from Annual survey of industries (1973-74) to (1997-98); A data base on the industrial sector in India. EPW research foundation; Mumbai (India); April 2002.

The linear regression equation of the value of the industrial product on the gross capital formation has been estimated to be ( $VIP = 28.408960 + .018973CF$ ). This shows that the VIP is an increasing function of the gross capital formation. The coefficient of determination ( $R^2$ ) has been estimated to be 0.90287 which is highly significant, as the computed value of F (204.50078) is much greater than the table value. The regression coefficient has been found to be statistically significant on the basis of 't' test also. This shows that gross capital formation is a major determinant of the VIP of a state.

**Table 4, Value of Industrial Products and Gross Capital Formation of Different States for the Year 1985-86**

Sl No.	State/UT	Value of Industrial Products (VIP) (in Rs. Crore)	Gross Capital Formation(CF) (in Lakh)
1	2	3	4
1	Andhra Pradesh	1370.70	69456
2	Assam	345.90	28474
3	Bihar	1634.80	70265
4	Goa	98.60	3327
5	Gujarat	2378.50	69457
6	Haryana	826.80	50830
7	Himachal Pradesh	81.90	12220
8	Jammu & Kashmir	92.50	7566
9	Karnataka	1122.30	66189
10	Kerala	604.90	30398
11	Madhya Pradesh	1262.60	136366
12	Maharashtra	5452.70	247827
13	Meghalaya	11.50	49
14	Orissa	510.70	31248
15	Punjab	919.70	54742
16	Rajasthan	820.20	67061
17	Tamil Nadu	2586.90	146729
18	Tripura	1.20	265
19	Uttar Pradesh	2370.80	127457
20	West Bengal	2317.20	144192
21	Andaman & Nicobar Islands	5.20	17
22	Delhi	789.10	11319
23	Pandichery	32.30	803

**Sources:** - VIP from Central Statistical Organisation (CSO) website as on 28.02.2008, and Gross Capital Formation from Annual survey of industries (1973-74) to (1997-98); a data base on the industrial sector in India; E.P.W research foundation; Mumbai (India); April 2002.

The above table shows the value of industrial products and the gross capital formation of different states in the year 1985-86. The highest value of the gross capital formation is in the state of Maharashtra (Rs.247827.00lakh) and the lowest in the state of Andaman and Nicobar islands (Rs.17.00 lakh). The average value of the gross capital formation of different states has been estimated to be Rs.57344.04 lakh. The coefficient of variation of it has been estimated to be 110.15 which show that there is wide variation in the gross capital formation of the different states.

**Table 5, Value of Industrial Products and Gross Capital Formation of Different States for the Year 1990-91**

Sl No.	State/UT	Value of Industrial Products (VIP) (in Rs. Crore)	Gross Capital Formation(CF) (in Lakh)
1	2	3	4
1	Andhra Pradesh	2534.40	306934
2	Assam	349.90	25123
3	Bihar	2158.00	149751
4	Goa	189.40	4844
5	Gujarat	3389.40	330589
6	Haryana	1219.10	104559
7	Himachal Pradesh	156.20	15296
8	Jammu & Kashmir	120.60	2830
9	Karnataka	1794.40	135768
10	Kerala	869.20	9646
11	Madhya Pradesh	2356.90	201756
12	Maharashtra	8199.60	661332
13	Manipur	6.60	891
14	Meghalaya	27.50	4181
15	Nagaland	18.30	10
16	Orissa	734.20	84139
17	Punjab	1407.00	115791
18	Rajasthan	1143.20	117083
19	Tamil Nadu	3321.30	370360
20	Tripura	5.80	1330
21	Uttar Pradesh	3845.30	286440
22	West Bengal	2732.60	230099.0
23	Andaman & Nicobar Islands	0.70	2396.00
24	Delhi	1243.00	26747.00
25	Pandichery	54.20	8124.00

**Sources:** - VIP from Central Statistical Organisation (CSO) website as on 28.02.2008 and Gross capital formation from Annual survey of industries (1973-74) to (1997-98); A data base on the industrial sector in India. E.P.W research foundation; Mumbai (India); April 2002.



The linear regression equation of the value of the industrial product on the gross capital formation has been estimated to be  $(VIP = -8.142710 + .018764CF)$ . This shows that VIP is an increasing function of the gross capital formation. The coefficient of determination ( $R^2$ ) has been estimated to be 0.87613 which is significant, as the computed value of F (148.53391) is much greater than the table value. The regression coefficient also is statistically significant on the basis of the 't' test. Thus, gross capital formation is an important factor which determines the value of the industrial products of a state.

Table 5, shows the value of the industrial products and the gross capital formation of different states in the year 1990-91. The highest value of gross capital formation is in the state of Maharashtra (Rs.661332.00lakhs) and the lowest in Nagaland (Rs.10.00lakhs). The average capital formation of different states has been estimated to be Rs. 129840.76 lakh. The coefficient of variation of it has been estimated to be 124.14; which shows that there is wide variation in the gross capital formation of different states. The linear regression equation of VIP on the Gross capital formation has been estimated to be  $(VIP = 59.492282 + .011210CF)$ . This shows that VIP is an increasing function of the gross capital formation of a state.

The coefficient of determination  $R^2$  has been estimated to be 0.95225 which is highly significant, as the computed value of F (458.66194) is much greater than its table value. The regression coefficient also is statistically significant on the basis of the 't' test. This shows that gross capital formation is a major determining factor of the value of industrial products in a state.

Table 6 shows the value of industrial products and the gross capital formation of different states in 1995-96. The gross capital formation is the highest in the state of Maharashtra (Rs.1798799.00lakh) and the lowest in the state of Tripura (Rs.553.00lakh). The average gross capital formation of different states has been estimated to be Rs.360331.76lakh. Its coefficient of variation has been estimated to be 137.53 which shows a wide variation in the gross capital formation of different states.

The linear regression equation of the value of industrial products on the gross capital formation has been estimated to be  $(VIP = 234.960579 + 0.005089CF)$ . This shows that VIP of a state is an increasing function of the gross capital formation in the state. The coefficient of determination  $R^2$  has been estimated to be 0.83151 which is significant, as the computed value of F (113.5019) is much greater than the table value. The regression coefficient has also been found to be statistically significant on the basis of 't' test. This shows that gross capital formation is a major determining factor of the value of the industrial products of a state.

Table 7 shows the value of industrial products and the gross capital formation of different states in 2000-2001. The gross capital formation was the highest in the state of Maharashtra (Rs.1231978.00lakh) and the lowest in the state of Manipur (26.00lakh). The average gross capital formation of different states has been estimated to be Rs. 221304.04lakh. The coefficient of variation of it has been estimated to be 135.56 which shows that there is wide variation in the gross capital formation of different states.

**Table 6, Value of Industrial Products and Gross Capital Formation of Different States for the Year 1995-96**

Sl No.	State/UT	Value of Industrial Products (VIP) (in Rs. Crore)	Gross Capital Formation(CF) (in Lakh)
1	2	3	4
1	Andhra Pradesh	3542.20	216701
2	Assam	343.50	80513
3	Bihar	1798.10	336611
4	Goa	277.20	28763
5	Gujarat	5936.90	1706745
6	Haryana	1492.70	307843
7	Himachal Pradesh	221.20	54496
8	Jammu & Kashmir	169.10	5021
9	Karnataka	2362.00	464620
10	Kerala	1067.70	174644
11	Madhya Pradesh	3217.70	628779
12	Maharashtra	12714.30	1798799
13	Manipur	5.90	1066
14	Meghalaya	19.60	1643
15	Nagaland	31.25	9817
16	Orissa	1107.40	273210
17	Punjab	2084.30	424137
18	Rajasthan	1809.30	202724
19	Tamil Nadu	4138.50	896399
20	Tripura	5.10	553
21	Uttar Pradesh	4209.70	934276
22	West Bengal	3475.70	314989
23	Andaman & Nicobar Islands	14.80	-12094
24	Delhi	1590.50	89376
25	Pandichery	83.10	68663

**Sources:** - VIP from Central Statistical Organisation (CSO) website as on 28.02.2008 and Gross capital formation from Annual survey of industries (1973-74) to (1997-98); A data base on the industrial sector in India. EPW research foundation; Mumbai (India); April 2002.

**Table 7, Value of Industrial Products and Gross Capital Formation of different states for the year 2000-01**

Sl No.	State/UT	Value of Industrial Products (VIP) (in Rs. Crore)	Gross Capital Formation(CF) (in Lakh)
1	2	3	4
1	Andhra Pradesh	4297.62	345113.0
2	Assam	358.94	237996.0
3	Bihar	2126.63	52611.00
4	Goa	430.30	60754.00
5	Gujarat	6123.70	730236.0
6	Haryana	1968.51	265464.0
7	Himachal Pradesh	508.19	56555.00
8	Jammu & Kashmir	42.66	9245.00
9	Karnataka	2597.71	434325.0
10	Kerala	1544.68	30934.00
11	Madhya Pradesh	4314.93	191941.0
12	Maharashtra	10984.53	1231978
13	Manipur	5.90	26.00
14	Meghalaya	47.87	1189.00
15	Nagaland	1.95	397.00
16	Orissa	1283.79	90354.00
17	Punjab	2501.19	135994.0
18	Rajasthan	2268.80	155597.0
19	Tamil Nadu	5028.54	711198.0
20	Tripura	14.89	1596.00
21	Uttar Pradesh	4366.01	484910.0
22	West Bengal	4574.10	237392.0
23	Andaman & Nicobar Islands	5.42	-1937.00
24	Delhi	1949.10	48314.00
25	Pandichery	340.94	20420.00

**Sources:** - VIP from Central Statistical Organisation (CSO) website as on 28.02.2008 and Gross capital formation from web site of Annual survey of industries.

The linear regression equation of the value of industrial products on the gross capital formation has been estimated to be ( $VIP = 546.190007 + 0.007959CF$ ). This shows that the VIP is an increasing function of the gross capital formation of the state. The coefficient of determination  $R^2$  has been estimated to be 0.84201 which is significant, as the computed value of F (122.57913) is much greater than the table value. The regression coefficient has been found to be statistically significant on the basis of the 't' test. This shows that the gross capital formation in a state is a major determining factor of its value of industrial products.

**Table 8, Value of Industrial Products and Gross Capital Formation of different states for the year 2002-03**

Sl No.	State/UT	Value of Industrial Products (VIP) (in Rs. Crore)	Gross Capital Formation(CF) (in Lakh)
1	2	3	4
1	Andhra Pradesh	4990.27	468958
2	Assam	323.31	70351
3	Bihar	2432.89	213030
4	Goa	516.29	57419
5	Gujarat	8431.63	958004
6	Haryana	2187.23	322762
7	Himachal Pradesh	578.15	52315
8	Karnataka	2702.33	334277
9	Kerala	1495.63	103167
10	Madhya Pradesh	3983.58	138690
11	Maharashtra	11546.81	1301251
12	Manipur	9.07	31
13	Meghalaya	58.45	1222
14	Orissa	1507.50	148597
15	Punjab	2525.47	304120
16	Rajasthan	2301.43	133323
17	Tamil Nadu	4833.36	823313
18	Uttar Pradesh	4818.83	389955
19	West Bengal	5116.73	226784
20	Delhi	2202.49	80614
21	Pondichery	375.19	43719

**Sources:** - VIP from Central Statistical Organisation (CSO) website as on 28.02.2008; and Gross capital formation from the web site of Annual survey of industries.

The above table 1 shows the value of the industrial products and the gross capital formation of different states. The highest gross capital formation state is in Maharashtra (Rs. 1301251.00lakh) and the lowest in Manipur (Rs. 31.00lakh). The average value of gross capital formation of different states has been calculated to be Rs. 293900.10lakh. Its coefficient of variation has been calculated to be 116.42, which shows a wide variation in the gross capital formation of different states.

The linear regression equation of the value of industrial products on the gross capital formation has been estimated to be ( $VIP = 690.406865 + 0.007848CF$ ). This shows that VIP is an increasing function of the gross capital formation. The coefficient of determination  $R^2$  has been estimated to be 0.85216 which is significant, as the computed value of F (109.51787) is much greater than the table value. The regression coefficient has also been found to be statistically significant on the basis of the 't' test. This shows that gross capital formation is a major determining factor of a state's VIP.

## CONCLUSION

In our study we found that the capital formation of a state has a significant positive impact on the value of its industrial products. The states which are able to raise their investments and capital formation figures are able to raise the value of their industrial products. Thus, capital formation is an important factor in determining the overall industrial development of the state.

The major determinant of the inequality in the industrial development is the amount of capital formation. If capital formation increases there is better utilization of natural resources and human resources. It helps to raise investment in the industrial sector as a result of which more and more industrial units emerges in the states which bring a positive impact in the VIP of the states and also to the relative income of the industrial sector in their state's income.

On the basis of our findings we may suggest that to reduce inequality there is need to increase the capital formation of the states. Inequality in the industrial development may create a number of regional problems which may create unrest among people of backward states. There is migration of the labourers from the backward states to fast developing and developed states to get fruitful employment. Measures should be taken to increase the capital formation in the state, so that the industrial inequality level can be reduced. In recent years some states like Bihar and Andhra Pradesh are attracting foreign investors so that problems of deficiency in capital formation can be removed and high rates of industrial growth can be achieved. If these measures are adopted in true spirit they are bound to reduce the inequality in industrial development and promote the process of the growth of not only the individual state but for the growth of the entire economy. It will reduce the tension in certain parts of the country which is due to the problem of unemployment and migration of labourers from backward to the fast developing states.

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