

Performance and Scope of Manufacturing Industries in Haryana

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Abstract: *This study deals with the development of manufacturing industries in context of the Industrialization wave proposed by the policy makers in India. A set of manufacturing industries have been identified on the basis of pattern, performance and their scope within the state along with the comparative advantage vis-à-vis other states of the union which can become nucleus of Haryana's industrialization strategy. Evidences of the clearly and consistently indicate the bright prospects and good scope of development of many manufacturing industries in the state. In the case of many other manufacturing industries evidence is equally clear about bleak prospects of further development.*

Keywords: *Development, Economic, Growth, Manufacturing Industries, Policy*

I. INTRODUCTION

In yester years, India was known for its handicrafts but the British Government in order to curb the Indian development passed prohibitory laws like Calicos Act 1701 and 1720 (against the use of printed Indian Calicos in England) aptly for protecting the woolen and silk Industries in England [1]. For more desolation, silk and cotton garments of India were sold at 50-60 percent lower price in England vis-a-vis fabricated garments till 1813. The East India Company which was established in 1600 to trade between India and Britain, drifted from its path of a trader to serve as an instrument to control Indian business and later handed it over to Britishers which led to the ruthless decay of Indian industries in general and handicraft industry in particular. The abolition of East India Company in 1833 provided an opportunity for England merchants to develop trade and industry in India [2]. It concocted the way to the organized establishment of industries in India precisely after the year 1854 when textile industry (Cotton Press) was set up by C.N Dewar at Bombay followed by jute spinning mill by George Acland at Calcutta in 1855 beside the formation of ten more cotton mills in Bombay by the year 1860. In the next two decades i.e. till 1880s, a spurt in industrialization was seen wherein twenty three new mills were established which generated an average daily employment of 47863 and the figure later escalated to 219288 with the introduction of sixty jute mills at Calcutta by 1913-14 [10]. Off take in growth of Indian economy that started in 1880s, at about 1 percent every year from 1880 to 1920 [11] witnessed a reasonable growth rate of 3.7 percent in between 1950-1964 [3]. However, this growth rate could not sustain and was calculated 2.9 percent during the time period 1965-1979 due to the reasons like declaration of emergency in 1975, wars in 1965 and 1971 besides other reasons but it again lifted to 5.8 percent in between 1980-1990 and 5.6 percent during 1991-2004 due to the opening up of Indian economy [3]. In fact, during the post reforms period, economic growth has hovered around 8 percent per year since 2003-2004 [4] and currently 7.3 percent in 2015 [12]. Despite the fact that there has been a rampant economic growth (10 percent in 2006-07) in post reforms era (<http://www.thehindubusinessline.com/opinion/columns/indias-gdp-growth-estimate/article> as seen on 26 May 2015), still the Indian Economy is marred by high poverty levels (22 percent) [13].

A comparison of Indian Economy with its counterpart China (as both are the giant economies, having large populations and almost opening up in late 70s and early 80s), indicates that Chinese have been successful in bringing down the poverty levels to 13 percent from 84 percent in 1980 [5]. It may be attributed to the fact that share of manufacturing sector in GDP of China is 31.8 percent where as it stands at 18 percent in India [6]. Not only this, regional disparities in terms of industrial growth is also a big challenge for India since pre-independence period, when industrial sectors were developed in port cities only like Bombay, Madras and Calcutta. Only few states other than port states like Punjab, Karnatka, Haryana, Himachal Pradesh and Uttranchal have shown some growth in industrial sector in the recent times. On the other hand, states like Uttar Pradesh, Bihar, Rajasthan, Assam, Madhya Pradesh and Jammu and Kashmir continued to show a dismal performance in industrial development [7]. Since the study is focused at the state of Haryana, in the next paragraphs, industrialization in Haryana is discussed.

State of Haryana emerged after reorganization of Punjab in 1966. Estimates reveal that economic growth of the state remained 6.4 percent during the time period 1966-67 to 2004-05 and 9.3 percent in almost last one decade [8]. Besides, the contribution of industrial sector in GSDP was 17.6 percent in 1966 which increased to 28.7 percent in 2011-12. Technical efficiency changes played major role in developing the

manufacturing sector of Haryana [9]. The state turned out to be one of India's largest automobile hub and manufactures today almost two-thirds of passenger cars, 50 per cent of tractors and 60 per cent of motorcycles in the country [14]. 25 percent of India's total sanitary ware comes from Haryana and second largest refinery in South Asia is also located at Panipat in Haryana. Also, Panipat is the manufacturing hub for handloom and textile industries and Ambala is known throughout India as a market for scientific instruments. Sirsa is famous for spinning cotton and threads industries. Though, the state has shown tremendous development in terms of industrialization, yet the synergy between dominance, growth and competitiveness of manufacturing industries need to be ascertained. Present study is an attempt in this direction.

The study aims to fulfill the following objectives:

1. To assess the share of different manufacturing industries in Haryana
2. To study the growth of manufacturing industries in Haryana
3. To compare the performance of manufacturing industries in Haryana with other major states of India

II. DATA BASE AND METHODOLOGY

To fulfill the above objectives, three digit level data published by Annual Survey of Industries (ASI) is taken for the period 1998-99 and 2011-2012. Although, electronic data is provided by Central Statistical Organization since 1980-81 but the National Industrial Classification (NIC) 1987 is not found to be comparable with NIC 2008, where in major changes have taken place with respect to adding up or elimination of many industries with Industrial Classification 1998. Accordingly, an analysis of 56 industries is carried out based on NIC 98. For the purpose of identifying dominant industries, share of dominating industries is computed in terms of profit, output, gross value added, number of factories and number of employees. For studying the growth of manufacturing industries, Compound Growth Rate of each of the selected indicators is calculated for the time period 1998-99 to 2011-2012. The data provided by ASI is on current prices but for proper comparison, the values are deflated with base price 1970-71. The trend in growth has been studied by computing the compound growth rate through principle of least squares, using the following formula.

$$\text{Log } Y = \text{Log } a + t (\text{Log } b)$$

To identify the performance of each manufacturing industry of Haryana at all India level, initially five dominating states of India are identified on the basis of output for all those manufacturing industries which are present in Haryana for the period 2011-12. These states are arranged in descending order of their output share of dominating manufacturing industries. Further, net value added per unit of invested capital and profit per unit of invested capital are calculated for all these manufacturing industries for the purpose of comparison at all India level.

The study is divided into five sections. Section I is introductory in nature. In section II database and methodology for the present study is discussed. Pattern and growth of manufacturing industries for the year 1998-99 to 2011-12 are identified in section III. Section IV identifies the scope of manufacturing industries in Haryana vis-a-vis with other major dominating states of India for the year 2011-12. Concluding remarks and recommendations are given in section V.

III. PATTERN AND GROWTH OF MANUFACTURING INDUSTRIES IN HARYANA

This section discusses the share of different manufacturing industries in the state for the year 2011-12. Table 1 shows that Manufacturing of motor vehicle contributes the maximum share of 14.88 percent to the total output of manufacturing industries in the state. It is also the third largest dominating industry with 10.36 percent share in terms of gross value added and second largest with 14.45 percent in terms of total profit among all manufacturing industries in the state. The second slot is bagged by Manufacturing of transport equipment n.e.c (12.98 percent share of total output) which also holds the second rank (12.52 percent) in terms of gross value added as well as third rank in number of employees (10.52 percent) besides securing highest rank (17.62 percent) in terms of profit. However, the share of this industry is just 1.67 percent of the total factories in the state. Manufacturing of parts and accessories for motor vehicle and their engines industry has the third largest share (12.06 percent) in terms of output and in terms of profit (11.71 percent). It also secured highest rank (15.71 percent) in terms of total number of employees and gross value added (13.56 percent) among the manufacturing industries in the state. Besides these three industries, seven such dominating industries among top ten in terms of share of output are Manufacture of basic iron and steel (7.58 percent), Manufacture of grain mill products, starches and starch products, and prepared animal feeds (7.01 percent), Manufacture of special purpose machinery (5.03 percent), Manufacture of general purpose machinery (4.64 percent), Manufacture of electric motors, generators and transformers (3.65 percent), Manufacture of wearing apparel, except fur apparel (3.64 percent), Manufacture of other fabricated metal products (2.38 percent). Together, these top ten manufacturing industries contribute 73.85 percent share to the output, 71.52 percent share to gross value added,

63.05 percent share to number of employees, 43.32 percent share in terms of number of factories and 76.10 percent share to profit for the given period.

Table 1: Percentage share of manufacturing industries in Haryana: 2011-12

S.No.	Industry	Output	GVA	Employees	Factories	Profit
1	Manufacture of motor vehicles	14.88	10.35	2.79	0.05	14.45
2	Manufacture of transport equipment n.e.c.	12.98	12.52	10.52	1.67	17.62
3	Manufacture of parts and accessories for motor vehicles and their engines	12.06	13.56	15.71	7.16	11.71
4	Manufacture of basic iron and steel	7.58	4.08	2.82	1.82	2.19
5	Manufacture of grain mill products, starches and starch products, and prepared animal feeds	7.01	7.12	2.71	6.88	9.54
6	Manufacture of special purpose machinery	5.03	6.01	4.81	4.36	7.21
7	Manufacture of general purpose machinery	4.64	5.54	2.87	2.25	9.65
8	Manufacture of electric motors, generators and transformers	3.65	4.03	2.79	1.42	1.71
9	Manufacture of wearing apparel, except fur apparel	3.64	5.33	14.24	7.73	-0.42
10	Manufacture of other fabricated metal products	2.38	2.98	3.79	9.88	2.44
11	Spinning, weaving and finishing of textiles	2.36	1.91	2.81	6.84	1.57
12	Manufacture of other textiles	2.06	2.47	4.62	5.06	0.68
13	Manufacture of dairy product	1.90	0.43	0.65	0.60	-0.22
14	Manufacture of rubber products	1.64	1.77	1.51	1.87	0.43
15	Manufacture of other chemical product	1.53	2.01	0.95	2.02	3.69
16	Manufacture of beverages	1.19	1.36	0.94	1.22	1.90
17	Manufacture of other food products	1.13	1.23	1.49	0.68	0.56
18	Manufacture of basic precious and non-ferrous metals	1.10	0.41	0.54	1.39	0.04
19	Manufacture of bodies (coach work) for motor vehicles; manufacture of trailers and semi-trailers	1.08	1.09	1.44	0.63	0.68
20	Casting of metals	1.04	0.77	0.77	1.77	0.53
21	Manufacture of basic chemicals	1.01	0.47	0.52	1.39	-0.20
22	Manufacture of non-metallic mineral products n.e.c.	0.97	1.55	2.07	8.60	1.73
23	Manufacture of paper and paper product	0.96	1.00	0.96	1.92	0.78
24	Manufacture of structural metal products, tanks, reservoirs and steam generators	0.79	0.55	0.81	0.97	-0.07
25	Manufacture of pharmaceutical products	0.64	1.45	1.25	1.77	2.15
26	Manufacture of wiring and wiring devices	0.59	0.44	0.68	0.87	0.09
27	Manufacture of domestic appliances, n.e.c.	0.57	0.63	3.78	0.33	1.23
28	Manufacture of plastic products	0.54	0.67	0.99	2.49	0.43
29	Manufacture of vegetable and animals oils and fats	0.52	0.11	0.20	1.05	0.07
30	Manufacturing of electric lighting equipment	0.51	0.63	1.03	0.15	0.63
31	Manufacture of medical and dental instruments	0.50	0.80	1.09	0.40	0.93
32	Manufacture of products of wood, cork, straw and plaiting materials	0.36	0.33	0.02	4.81	0.15
33	Manufacture of railway locomotives and rolling stock	0.33	0.61	0.37	0.35	1.05
34	Manufacture of glass and glass products	0.32	0.49	0.39	0.42	0.23
35	Manufacture of electronic valves and tubes and other electronic components	0.32	0.30	0.16	0.40	0.60
36	Manufacture of communication equipment	0.32	0.30	0.56	0.40	0.59
37	Manufacture of other electrical equipment	0.30	0.39	0.63	0.78	0.14
38	Tanning and dressing of leather, manufacture of luggage handbags, saddlery and harness	0.26	0.38	0.68	0.65	0.14
39	Printing and service activities related to printing	0.25	0.45	0.53	0.67	-0.28
40	Manufacture of prepared animal feeds	0.22	0.09	0.15	0.23	0.06
41	Manufacture of refined petroleum products	0.13	0.04	0.04	0.33	-0.38
42	Manufacture of footwear	0.12	2.59	2.90	1.62	3.50
43	Manufacturing of measuring testing, navigating and control equipment, watches and clocks	0.12	0.20	0.35	0.43	0.11
44	Other manufacturing	0.09	0.12	0.27	0.37	0.08
45	Manufacture of man-made fibers	0.08	0.04	0.04	0.27	0.03
46	Processing and preservation of fruits & vegetables	0.07	0.07	0.11	0.17	-0.05

47	Manufacture of tobacco products	0.06	0.08	0.09	0.28	0.08
48	Manufacturing of articles of fur	0.05	0.05	0.11	0.15	0.05
49	Manufacture of sports goods	0.03	0.05	0.10	0.05	0.04
50	Manufacture of optical instruments and photographic equipment	0.03	0.05	0.12	0.28	0.04
51	Manufacture of furniture	0.03	0.04	0.13	0.33	0.01
52	Manufacture of jewellery and related articles	0.02	0.03	0.04	0.13	0.03
53	Manufacture of consumer electronics	0.02	0.01	0.01	0.10	-0.01
54	Manufacture of knitted and crocheted fabrics and articles	0.01	0.02	0.05	0.05	0.01
55	Saw milling and planing of wood	0.01	0.01	0.02	1.35	0.01
56	Manufacture of irradiation, electro medical and electrotherapeutic equipment	0.001	0.001	0.001	0.12	0.001
	Total	100.00	100.00	100.00	100.00	100.00

Source: Calculated from suppliment to Annual Survey of Industries 2011-12

Similarly, bottom ten industries (Manufacture of Tobacco products, Manufacture of articles of fur, Manufacture of sports goods, Manufacture of optical instruments and photographic equipment, Manufacture of furniture, Manufacture of jewellery and related articles, Manufacture of consumer electronics, Manufacture of knitted and crocheted fabrics and articles, Saw milling and planning of wood, Manufacture of irradiation, electro medical and electrotherapeutic equipment) together contribute only 0.26 percent share in output, 2.84 percent share in number of factories, 0.34 percent share in gross value added, 0.67 percent share in total working employees and 0.26 percent share in profit of total manufacturing sector in the state. When bottom ten industries are compared with the top ten dominant industries, it speaks volume about the existing disparities in manufacturing industries in Haryana in terms of selected indicators.

Growth of Manufacturing Industries in Haryana

This section discuss the growth of manufacturing industries in Haryana from 1998-99 to 2011-12. On the basis of concordance, we found a group of 46 manufacturing industries for which growth rates can be calculated for the selected parameters. The compound growth rates of different industries are given in table 2. It is evident from the table that Manufacture of electronic valves and tubes and other electronic components industry turned out to be fastest growing manufacturing industry in Haryana. The output of this industry grew at a stunning rate of 93.94 percent per annum. This was followed by Manufacture of motor vehicles (66.70 percent), Manufacture of bodies of coach work for motor vehicle, trailers and semi trailers (33.43 percent), Manufacture of manmade fibers (29.14 percent), Manufacture of dairy products (21.92 percent), Printing and service activities related to printing (21.06 percent), Manufacture of refined petroleum products (20.39 percent), Casting of metals (20.13 percent), Manufacture of electric motors, generators and transformers (19.26 percent) and Manufacture of electric lamps and lighting equipments (18.17 percent). Growth rate of output of all manufacturing industries in the state during the same period was 12.74 percent per annum but more than half the industries (twenty five) have experienced a growth rate less than that of the average growth. Further, analysis has revealed that industries namely, Manufacture of jewellery and related articles (-8.45 percent), manufacture of footwear (-8.04 percent), Manufacture of medical appliances and instruments for measuring, checking, navigating and other purpose except optical instrument (-2.24 percent), Production, processing and preservation of meat fish, fruits vegetables oils and fats (-0.58 percent) showed a dismal growth for the given period in the state. In terms of gross value added the table shows that Manufacture of electronics valves and tubes and other electronic components has been the fastest growing industry which experienced a tremendous growth rate of 86.22 percent per annum. This was followed by Manufacture of motor vehicle (81.98 percent), Manufacture of bodies (coachwork) for motor vehicle (35.95 percent), Tanning and dressing of leather, manufacture of handbags, saddler and harness (32.58 percent) and Manufacture of manmade fibers (23.17 percent). Further, it is revealed that out of 46 manufacturing industries, there are 23 such industries which have a growth rate less than that of average growth rate (10.44 percent) in terms of gross value added.

Table 2: Growth rate of manufacturing industries in Haryana: 1998-99 to 2011-12

S.No.	Industry	Output	GVA	Employees	Factories	Profit
1	Manufacture of electronic valves and tubes and other electronic components	93.94	86.22	-	11.86	-
2	Manufacture of motor vehicle	66.70	81.98	39.29	-8.86	-
3	Manufacture of bodies (coach work) for motor vehicles; manufacture of trailers and semi-trailers	33.43	35.95	25.41	15.59	31.86
4	Manufacture of man-made fibers	29.14	23.17	8.75	7.26	39.84
5	Manufacture of dairy product	21.92	19.00	11.56	11.34	-
6	Printing and service activities related to printing	21.06	17.67	10.72	20.32	-

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7	Manufacture of refined petroleum products	20.39	15.80	24.47	14.51	-
8	Casting of metals	20.13	14.56	4.25	0.86	21.82
9	Manufacture of electric motors, generators and transformers	19.26	14.59	10.81	7.23	5.24
10	Manufacture of electric lamps and lighting equipment	18.17	16.51	16.44	4.29	29.24
11	Manufacture of wearing apparel, except fur apparel	17.79	17.73	19.09	15.31	-
12	Tanning and dressing of leather, manufacture of luggage handbags, saddlery and harness.	17.55	32.58	22.82	11.98	-
13	Manufacture of parts and accessories for motor vehicles and their engines	16.30	15.29	11.75	6.03	23.54
14	Manufacture of knitted and crocheted fabrics and articles	16.05	8.16	7.81	-10.42	--
15	Manufacture of transport equipment n.e.c.	15.81	13.09	-5.16	3.47	
16	Manufacture of rubber products	15.41	13.46	6.64	3.31	19.17
17	Manufacture of other textiles	14.90	15.68	16.89	10.92	7.53
18	Manufacture of basic chemicals	14.68	4.87	4.38	3.40	-
19	Manufacture of products of wood, cork, straw and plaiting materials	14.67	12.76	-15.67	8.66	8.15
20	Manufacture of grain mill products, starches and starch products	13.40	17.64	-0.59	0.10	25.26
21	Manufacture of beverages	13.37	11.00	8.03	11.97	8.47
22	Manufacture of general purpose machinery	12.63	11.20	2.71	-1.38	19.54
23	Manufacture of other fabricated metal products; metal working service activities	11.72	14.02	5.33	3.80	30.13
24	Manufacture of railway and tramway locomotives and rolling stock	10.26	9.76	2.87	-1.24	20.83
25	Spinning, weaving and finishing of textiles	10.11	8.97	-0.11	3.06	-
26	Manufacture of basic precious and non-ferrous metals	9.32	-5.03	3.48	0.82	-25.01
27	Manufacture of basic iron & steel	9.23	5.52	3.65	-1.82	43.98
28	Manufacture of paper and paper product	8.79	7.71	2.09	2.63	21.61
29	Manufacture of tobacco products	7.74	11.37	3.54	4.65	11.92
30	Manufacture of non-metallic mineral products n.e.c.	7.26	5.50	-1.66	2.29	8.30
31	Manufacture of special purpose machinery	7.06	4.26	1.49	1.00	2.55
32	Manufacture of other chemical products	6.93	2.79	-2.16	-0.83	2.79
33	Manufacture of furniture	5.33	10.33	14.34	7.79	-1.24
34	Manufacture of other electrical equipment n.e.c.	5.01	2.38	2.69	2.34	-5.78
35	Manufacture of other food products	4.32	2.58	-0.97	0.93	3.60
36	Manufacture of glass and glass products	4.01	10.03	-3.76	8.48	-
37	Manufacture of structural metal products, tanks, reservoirs and steam generators	3.76	5.02	2.55	0.65	12.80
38	Manufacture of wiring and wiring devices	3.53	2.49	0.02	4.01	-
39	Manufacture of plastic products	2.62	0.06	-0.03	6.10	-0.92
40	Saw milling and planing of wood	1.73	3.18	-5.30	3.08	
41	Manufacture of domestic appliances, n.e.c.	0.60	-2.82	10.05	-5.78	2.41
42	Manufacture of communication equipment	0.51	-5.75	3.60	3.32	-1.70
43	Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats	-0.58	-7.17	-3.36	-0.56	-23.90
44	Manufacture of measuring, testing, navigating and control equipment	-2.24	-4.27	-3.11	-2.30	-9.06
45	Manufacture of footwear	-8.04	10.70	6.42	4.70	10.85
46	Manufacture of jewellery and related articles	-8.45	-	-12.75	-1.58	-
	All Industries	12.74	10.44	3.51	4.15	9.00

Source: Calculated from supplement to Annual Survey of Industries 1998-99 and 2011-12

Note: Growth rates could not be calculated due to the non availability of data from CSO

A dismal performance in terms for Gross Value Added is shown by Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats (-7.17 percent), Manufacture of communication equipment (-5.75 percent), Manufacture of basic precious and non ferrous metals (-5.03 percent), Manufacture of measuring, testing, navigating, and control equipment (-4.27 percent) and Manufacture of domestic appliances, n.e.c (-2.82 percent). Further in terms of number of factories, Printing and service activities related to printing has recorded the highest growth rate (20.32 percent) in the state. This is followed by Manufacture of bodies (coach work) for motor vehicles (15.59 percent), Manufacture of wearing apparel, except of fur apparel (15.31 percent), Manufacture of refined petroleum products (14.51 percent) and Tanning and dressing of leather,

luggage, handbags, dressing and dyeing of fur (11.98 percent). Diagonally opposite is the case in Manufacture of knitted and crocheted fabrics and articles (-10.42 percent), Manufacture of motor vehicle (-8.86 percent), Manufacture of domestic appliances (-5.78 percent), Manufacture of measuring, testing, navigating, and control equipment (-2.30), Manufacture of basic iron and steel (-1.82), Manufacture of jewellery and related articles (-1.58), Manufacture of general purpose machinery (-1.38 percent), Manufacture of railway and tramway locomotive and rolling stock (-1.24 percent), Manufacture of other chemical products (-0.83 percent) and Production, processing and preservation of meat, fish fruit, vegetables oils and fats (-0.56 percent) which have shown a negative growth in building up and operationalizing the number of factories. Average growth rate for all the manufacturing industries in terms of number of factories is calculated at 4.15 percent for the given time period.

For number of employees, Manufacture of motor vehicle industry registered highest growth rate (39.29 percent) followed by Manufacture of bodies (coach work) for motor vehicle, manufacture of trailers and semi trailers (25.41 percent), Manufacture of refined petroleum products (24.47 percent), Tanning and dressing of leather, manufacture of luggage handbags, saddler and harness (22.82 percent) and Manufacture of wearing apparel (19.09 percent) industry. Bottom ten industries that have experienced a negative growth constitute Manufacture of products of wood, cork, straw and plaiting material (-15.67 percent), Manufacture of jewellery and related articles (-12.75 percent), Saw milling and planning of wood (-5.30 percent), Manufacture of transport equipment n.e.c (-5.16 percent), Manufacture of glass and glass products (-3.76 percent), Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats (-3.36 percent), Manufacture of measuring, testing, navigating, and control equipment (-3.11 percent), Manufacture of other chemical products (-2.16 percent), Manufacture of non metallic mineral products n.e.c (-1.66 percent) and Manufacture of other food products (-0.97 percent). Employment growth rate for all manufacturing sectors in the state is calculated at 3.51 percent.

Highest growth rate in terms of profits is exhibited by Manufacture of basic iron and steel industry (43.98 percent per annum) as shown in table 2. This is followed by Manufacture of manmade fibers (39.84 percent), Manufacture of bodies (coach work) for motor vehicle, manufacture of trailer and semi trailers (31.86 percent), Manufacture of other fabricated metal (30.13 percent) and Manufacture of electric lamps and lighting equipments (29.24 percent). Industries which showed dismal growth in terms of profits are Manufacture of basic precious and non ferrous metals (-25.01 percent), Production processing and preservation of meat, fruit, vegetables oils and fats (-23.90 percent), Manufacture of measuring, testing, navigating, and control equipment (-9.06 percent), Manufacture of other electrical equipment n.e.c (-5.78 percent), Manufacture of communication equipment (-1.70 percent), Manufacture of furniture (-1.24 percent) and Manufacture of plastic products (0.92 percent).

A comparison of top twenty industries that are dominating (Table 1) as well as fastest growing (Table 2) in at least three selected indicators showed that six industries i.e. Manufacture of parts and accessories for motor vehicle and their engines, Manufacture of grain mill products, starch and starch products Manufacture of Footwear, Manufacture of rubber products, Manufacture of other textile, Manufacture of other fabricated metal are such which are common to both the lists.

IV. SCOPE OF MANUFACTURING INDUSTRIES IN HARYANA

Haryana has a comparative advantage in many areas vis-à-vis other states of India and a more or less free access to the national market gives unlimited potential to the state to grow and prosper. In this scenario, an evaluation of Haryana's economy or industry in isolation with other states of India does not complete the story. Therefore, we have made an effort to compare the performance of all manufacturing industries of Haryana in terms of net value added per unit of invested capital and profit per unit of invested capital with the manufacturing industries in other states to find out if there is any scope for further expansion of manufacturing industries. Top five industries thus identified and ranked in descending order of comparative advantage of Haryana for the year 2011-12 are given in table 3.

S.No.	Industry	State	Net value added per unit invested capital	Profit per unit of invested capital	O/P percent age
1	Manufacturing of dairy products(105)	Haryana	0.12	-0.02	5
		All India	0.35	0.13	
		Maharashtra	0.59	0.37	18
		Gujarat	0.29	0.08	15
		Andhra Pradesh	0.57	0.30	12
		Uttar Pradesh	-0.29	-0.43	9

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2	Manufacturing of grain mill products starch and starch products (106)	Tamil Nadu	0.52	0.04	7
		Haryana	0.23	0.10	10
		All India	0.26	0.12	
		Andhra Pradesh	0.25	0.10	21
		Maharashtra	0.32	0.12	9
		Madhya Pradesh	0.23	0.12	7
		Gujarat	0.31	0.13	6
3	Manufacture of other food products (107)	Uttar Pradesh	0.21	0.21	5
		Haryana	0.20	0.04	2
		All India	0.17	0.03	
		Maharashtra	0.13	0.01	22
		Uttar Pradesh	0.02	-0.09	16
		Karnataka	0.35	2.51	12
		Tamil Nadu	0.17	0.01	7
4	Manufacture of beverages (110)	Gujarat	0.20	0.05	6
		Haryana	0.02	0.01	5
		All India	0.37	0.24	
		Maharashtra	0.35	0.21	16
		Rajasthan	1.06	0.97	11
		Uttar Pradesh	0.23	0.12	10
		Andhra Pradesh	0.31	0.19	9
5	Spinning weaving and finishing of textiles (131)	Tamil Nadu	0.28	0.14	8
		Haryana	0.31	0.09	2
		All India	0.17	0.001	
		Tamil Nadu	0.11	-0.07	17
		Gujarat	0.19	0.02	17
		Maharashtra	0.20	0.03	13
		Rajasthan	0.20	-0.03	7
6	Manufacture of other textiles (139)	Andhra Pradesh	0.09	-0.06	5
		Haryana	0.23	0.03	10
		All India	0.25	0.04	
		Gujarat	0.23	0.01	19
		Tamil Nadu	0.40	0.16	16
		Punjab	0.18	0.01	14
		Maharashtra	0.22	-0.03	13
7	Manufacture of wearing apparel, except fur apparel (141)	Uttar Pradesh	0.21	-0.01	6
		Haryana	0.34	-0.01	15
		All India	0.54	0.10	
		Karnataka	0.86	0.23	24
		Tamil Nadu	0.51	0.03	13
		Uttar Pradesh	0.56	0.11	13
		Rajasthan	0.42	0.16	4
8	Tanning and dressing of leather , manufacture of luggage, handbags, saddler and harness ,dressing and dyeing of fur (151)	Gujarat	0.48	0.08	2
		Haryana	0.36	0.05	4
		All India	0.29	0.03	
		Tamil Nadu	0.33	-0.01	35
		Uttar Pradesh	0.23	0.06	28
		West Bengal	0.29	0.06	24
		Madhya Pradesh	0.15	-0.13	4
9	Manufacture of footwear (152)	Punjab	0.20	0.04	1
		Haryana	0.62	0.29	12
		All India	0.47	0.14	
		Tamil Nadu	0.39	-0.06	26
		Uttar Pradesh	0.51	0.18	23
		West Bengal	0.37	0.06	5
		Uttaranchal	0.74	0.49	5
10	Sawmilling and planing of wood (161)	Karnataka	0.35	0.10	4
		Haryana	0.21	0.10	1
		All India	0.30	0.08	
		Gujrat	0.27	0.05	56
		Tamil Nadu	0.26	0.11	24
		Kerala	0.08	0.02	9
		Karnataka	0.57	0.17	2
11	Manufacture of products of wood (162)	Andhra Pradesh	0.50	0.18	1
		Haryana	0.15	0.03	6
		All India	0.22	0.07	
		Maharashtra	0.27	0.09	16
		West Bengal	0.23	0.04	15
Uttaranchal	0.19	0.07	10		

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		Gujarat	0.18	0.05	10
		Rajasthan	0.58	0.41	8
12	Manufacture of paper, paper products (170)	Haryana	0.31	0.10	3
		All India	0.17	0.03	
		Maharashtra	0.16	0.05	14
		Andhra Pradesh	0.26	0.15	11
		Gujarat	0.19	0.02	10
		Uttar Pradesh	0.13	-0.01	10
		Uttaranchal	0.11	0.03	7
13	Printing and service activities related to printing (181)	Haryana	0.14	-0.05	2
		All India	0.37	0.09	
		Uttar Pradesh	0.46	0.18	16
		Karnataka	0.34	0.18	11
		Tamil Nadu	0.40	0.13	11
		Andhra Pradesh	0.10	-0.12	6
		Kerala	0.67	0.30	5
14	Manufacture of basic chemicals, fertilizers, nitrogen compounds, plastic and synthetic rubber in primary forms (201)	Haryana	0.09	-0.01	1
		All India	0.30	0.19	
		Gujarat	0.33	0.24	38
		Maharashtra	0.37	0.23	15
		Andhra Pradesh	0.28	0.18	7
		West Bengal	0.01	-0.05	7
		Uttar Pradesh	0.39	0.27	6
15	Manufacture of other chemical products (202)	Haryana	0.27	0.18	2
		All India	0.87	0.67	
		Maharashtra	1.45	0.80	17
		Gujarat	0.30	0.18	14
		Punjab	28.26	27.96	10
		Rajasthan	1.03	0.91	10
		Tamil Nadu	0.47	0.04	9
16	Manufacture of man- made fibers (203)	Haryana	0.19	0.08	1
		All India	0.15	0.03	
		Maharashtra	0.10	-0.04	40
		Gujarat	0.16	0.03	29
		Tamil Nadu	0.12	0.02	6
		Karnataka	0.71	0.60	4
		Uttar Pradesh	-0.02	-0.08	2
17	Manufacture of motor vehicles (291)	Haryana	0.28	0.18	18
		All India	0.18	0.05	
		Tamil Nadu	0.24	0.15	33
		Jharkhand	0.43	0.18	7
		Uttaranchal	0.35	0.30	6
		Uttar Pradesh	0.78	0.61	6
		Madhya Pradesh	0.46	0.25	3
18	Processing and preserving of fruit and vegetables(103)	Haryana	0.22	-0.06	2
		All India	0.15	-0.02	
		Maharashtra	0.14	0.01	19
		Punjab	0.07	-0.13	15
		Andhra Pradesh	0.17	0.04	12
		West Bengal	0.19	0.04	10
		Karnataka	-0.01	-0.01	9
19	Manufacture of vegetable and animal oils and fats (104)	Haryana	0.11	0.02	1
		All India	0.26	0.17	
		Gujarat	1.41	1.30	18
		Madhya Pradesh	0.37	0.32	15
		Uttar Pradesh	0.71	0.48	12
		Andhra Pradesh	0.14	0.03	9
		Rajasthan	0.20	0.08	7
20	Manufacture of prepared animal feeds (108)	Haryana	0.45	8.56	2
		All India	0.65	0.45	
		Tamil Nadu	0.37	0.20	17
		Andhra Pradesh	0.46	0.30	16
		Maharashtra	0.40	0.18	11
		Uttar Pradesh	0.38	0.15	10
		Gujarat	0.35	0.24	9
21	Manufacture of tobacco products (120)	Haryana	0.54	2.63	.01
		All India	1.03	0.75	
		Andhra Pradesh	0.81	0.41	27
		Uttar Pradesh	3.98	3.71	17

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		Maharashtra	0.84	0.58	13
		Karnataka	0.27	0.27	8
		Gujrat	0.31	0.14	5
22	Manufacture of articles of fur (142)	Haryana	0.54	0.21	35
		All India	-0.23	-0.61	
		Gujarat	-1.95	-2.26	35
23	Manufacture of knitted and crocheted apparel (143)	Haryana	1.37	0.37	.01
		All India	0.32	0.01	
		Tamil Nadu	0.33	0.01	65
		Punjab	0.35	0.05	29
		Andhra Pradesh	0.06	-0.16	2
		Maharashtra	0.53	0.12	1
		Gujarat	0.50	0.05	1
24	Manufacture of refined petroleum products (192)	Haryana	-0.11	-0.22	.01
		All India	0.18	0.15	
		Gujarat	0.10	0.08	45
		Maharashtra	1.51	1.40	15
		Tamil Nadu	0.07	0.02	7
		Karnataka	0.06	0.06	6
		Kerala	-0.01	-0.05	5
25	Manufacture of glass and glass products (231)	Haryana	0.001	0.04	5
		All India	0.001	0.08	
		Gujarat	0.31	0.17	31
		Uttar Pradesh	0.18	0.02	13
		Maharashtra	0.19	0.05	11
		Tamil Nadu	0.06	0.01	10
		Uttanchal	0.17	0.05	8
26	Manufacture of non metallic mineral products 239	Haryana	0.30	0.12	1
		All India	0.28	0.16	
		Andhra Pradesh	0.24	0.15	15
		Rajasthan	0.42	0.28	14
		Gujarat	0.22	0.08	14
		Maharashtra	0.37	0.23	7
		Karnataka	0.24	0.15	7
27	Manufacture of basic iron and steel (241)	Haryana	0.19	0.04	3
		All India	0.24	0.17	
		Karnataka	1.50	1.48	16
		Maharashtra	0.15	0.03	13
		Chhattisgarh	0.24	0.12	10
		West Bengal	0.18	0.03	10
		Orissa	0.08	0.03	10
28	Manufacture of basic precious and other non ferrous metals (242)	Haryana	0.18	0.01	2
		All India	0.18	0.09	
		Maharashtra	0.14	0.01	25
		Gujarat	0.13	0.05	15
		Orissa	0.09	0.001	12
		Tamil Nadu	0.16	0.04	8
		Uttar Pradesh	0.70	0.51	5
29	Casting of metals (243)	Haryana	0.32	0.08	3
		All India	0.23	0.07	
		Maharashtra	0.28	0.12	24
		Gujarat	0.26	0.11	18
		Tamil Nadu	0.33	0.08	11
		Andhra Pradesh	0.10	0.02	10
		West Bengal	0.09	-0.08	7
30	Manufacture of structural metal products , tanks reservoirs and steam generators (251)	Haryana	0.19	-0.01	2
		All India	0.40	0.21	
		Maharashtra	0.69	0.44	32
		Tamil Nadu	0.58	0.35	27
		Gujarat	0.17	0.08	13
		Uttar Pradesh	0.14	-0.02	5
		Andhra Pradesh	0.21	0.01	5
31	Manufacture of general purpose machinery (281)	Haryana	0.72	0.43	8
		All India	0.58	0.33	
		Maharashtra	0.92	0.63	26
		Gujarat	0.45	0.20	18
		Tamil Nadu	0.06	0.00	18
		Karnataka	0.51	0.22	8
		Uttaranchal	0.40	0.24	6

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32	Manufacture of special purpose machinery (282)	Haryana	0.51	0.21	10
		All India	0.51	0.26	
		Maharashtra	0.63	0.30	29
		Karnatka	0.74	0.74	10
		Punjab	0.56	0.31	9
		Uttar Pradesh	0.30	0.15	5
		Andhra Pradesh	0.34	0.17	3
33	Manufacture of domestic appliances (275)	Haryana	0.30	0.21	5
		All India	0.06	0.40	
		Maharashtra	0.18	0.06	37
		Tamil Nadu	5.14	4.80	14
		Himachal	0.65	0.41	11
		Uttaranchal	0.33	0.18	10
		Karnataka	0.45	0.17	4
34	Manufacture of electric motors , generators, transformers and electricity distribution and control apparatus (271)	Haryana	0.22	0.05	9
		All India	0.50	0.24	
		Maharashtra	0.54	0.27	20
		Andhra Pradesh	0.63	0.36	13
		Karnatka	0.68	0.27	11
		Gujarat	0.30	0.10	7
		Tamil Nadu	0.26	0.08	6
35	Manufacture of electronic components (261)	Haryana	0.42	0.29	4
		All India	0.49	0.11	
		Tamil Nadu	0.57	0.25	22
		Maharashtra	0.62	0.22	15
		Andhra Pradesh	0.58	0.12	15
		Karnataka	0.39	0.03	13
		Uttar Pradesh	0.17	-0.16	8
36	Manufacturing of measuring, testing navigating and control equipment watches and clocks (265)	Haryana	0.45	0.08	2
		All India	0.95	0.45	
		Tamil Nadu	1.00	0.56	26
		Maharashtra	1.57	0.78	24
		Karnataka	0.54	0.02	13
		Uttaranchal	3.03	2.47	8
		Rajasthan	0.59	0.02	5
37	Manufacture of bodies (coachwork) for motor vehicles , manufacture of trailer and semitrailer (292)	Haryana	0.28	0.07	14
		All India	0.43	0.19	
		Tamil Nadu	0.63	0.33	32
		Gujarat	0.01	-0.14	15
		Maharashtra	0.65	0.42	10
		Andhra Pradesh	0.19	0.07	8
		Uttar Pradesh	0.10	-0.16	8
38	Manufacture of parts and accessories (293)	Haryana	0.35	0.12	40
		All India	0.51	0.28	
		Tamil Nadu	0.36	0.14	29
		Maharashtra	0.32	0.08	21
		Uttaranchal	0.53	0.33	6
		Karnataka	0.62	0.26	6
		Uttar Pradesh	0.26	0.06	4
39	Manufacture of transport equipment (309)	Haryana	0.65	0.35	28
		All India	0.78	0.52	
		Maharashtra	1.07	0.84	25
		Uttaranchal	2.09	1.95	19
		Punjab	0.07	-0.13	8
		Tamil Nadu	0.60	0.23	7
		Uttar Pradesh	0.23	-0.10	5
40	Manufacture of furniture (310)	Haryana	0.46	0.02	0
		All India	0.27	-0.01	
		Maharashtra	-0.01	-0.37	29
		Uttar Pradesh	0.32	0.14	11
		Andhra Pradesh	0.49	0.31	11
		Tamil Nadu	0.46	0.10	10
		Karnataka	0.44	0.12	9
41	Manufacture of pharmaceuticals , medicinal chemical and botanical products (210)	Haryana	0.53	0.28	1
		All India	0.53	0.35	
		Maharashtra	0.59	0.36	26
		Andhra Pradesh	0.51	0.36	18
		Gujarat	0.33	0.14	12
		Himachal	0.96	0.80	12

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42	Manufacture of rubber products (221)	Karnataka	0.18	0.18	5
		Haryana	0.38	0.16	6
		All India	0.32	0.17	
		Kerala	0.69	0.41	15
		Tamil Nadu	0.25	0.13	15
		Maharashtra	0.47	0.26	14
		Rajasthan	0.33	0.25	8
43	Manufacture of plastic products (222)	Andhra Pradesh	0.69	0.53	7
		Haryana	0.26	0.06	1
		All India	0.29	0.12	
		Maharashtra	0.35	0.14	21
		Gujarat	0.25	0.09	11
		Uttar Pradesh	0.27	0.13	9
		Uttaranchal	0.24	0.12	7
44	Manufacture of other fabricated metal products, metalworking service activities (259)	Karnataka	0.07	0.07	5
		Haryana	0.32	0.10	7
		All India	0.33	0.10	
		Maharashtra	0.27	0.06	31
		Gujarat	0.29	0.07	13
		Tamil Nadu	0.48	0.19	8
		Uttar Pradesh	0.46	0.15	7
45	Manufacture of communication equipment (263)	Punjab	0.33	0.10	6
		Haryana	0.90	0.34	6
		All India	0.23	0.04	
		Andhra Pradesh	0.17	0.04	27
		Tamil Nadu	0.29	-0.01	16
		Rajasthan	0.48	0.37	11
		Maharashtra	0.47	0.27	11
46	Manufacture of consumer electronics (264)	Himachal	0.01	-0.38	10
		Haryana	0.20	-0.03	.01
		All India	0.42	0.23	
		Uttar Pradesh	0.63	0.38	46
		Maharashtra	0.38	0.18	32
		Gujarat	0.07	-0.01	6
		Rajasthan	0.51	0.40	6
47	Manufacture of irradiation , electromedical and electrotherapeutic equipment (266)	Uttaranchal	0.68	0.30	5
		Haryana	1.21	0.57	.01
		All India	0.52	0.19	
		Karnataka	0.23	0.23	55
		Gujarat	0.61	0.39	12
		Maharashtra	0.41	0.08	11
		Himachal	0.23	0.13	3
48	Manufacture of optical instruments and equipment (267)	Andhra Pradesh	0.74	0.25	2
		Haryana	0.38	0.11	16
		All India	0.42	0.20	
		Tamil Nadu	0.38	-0.05	22
		Uttar Pradesh	0.68	0.21	13
		Andhra Pradesh	0.13	0.11	7
		Gujarat	1.13	0.14	3
49	Manufacture of wiring and wiring devices (273)	Uttaranchal	0.97	0.12	2
		Haryana	0.14	0.01	3
		All India	0.34	-0.01	
		Rajasthan	0.18	0.02	14
		Maharashtra	0.55	-0.71	11
		Uttaranchal	0.74	0.63	10
		Gujarat	0.18	0.05	8
50	Manufacture of electric lighting equipment (274)	Andhra Pradesh	0.39	0.01	6
		Haryana	0.37	0.11	12
		All India	0.41	0.18	
		Maharashtra	0.37	0.18	15
		Uttaranchal	0.67	0.45	13
		Gujarat	0.52	0.33	12
		Himachal	1.00	0.84	10
51	Manufacture of other electrical equipment (279)	Tamil Nadu	0.11	-0.02	9
		Haryana	0.25	0.04	5
		All India	0.39	0.12	
		Maharashtra	0.57	0.21	30
		West Bengal	0.19	-0.04	11
		Himachal	0.92	0.54	8

		Gujarat	0.30	0.10	7
		Karnataka	0.23	-0.04	6
52	Manufacture of railway locomotives and rolling stock (302)	Haryana	0.99	0.57	9
		All India	0.37	0.13	
		West Bengal	0.37	0.16	36
		Uttar Pradesh	0.54	0.24	11
		Gujarat	-0.45	-0.68	9
		Andhra Pradesh	1.18	0.77	8
		Himachal	0.86	0.62	6
53	Manufacture of jewellery bijouterie and related articles (321)	Haryana	0.80	0.26	0
		All India	0.33	0.15	
		Gujarat	0.30	0.12	28
		Maharashtra	0.36	0.16	24
		Karnataka	-0.02	-0.12	23
		Tamil Nadu	0.33	0.22	19
		Uttaranchal	1.75	1.51	3
54	Manufacture of sports goods (323)	Haryana	0.39	0.12	6
		All India	0.39	0.09	
		Punjab	0.31	0.05	55
		Uttar Pradesh	0.65	0.22	24
		Tamil Nadu	0.39	0.05	5
		Maharashtra	0.51	0.08	2
		Chhattisgarh	0.38	0.11	1
55	Manufacture of medical and dental instruments and supplies (325)	Haryana	0.33	0.15	22
		All India	0.51	0.26	
		Karnataka	0.80	0.56	25
		Uttar Pradesh	0.51	0.19	11
		Gujarat	0.39	0.18	8
		Tamil Nadu	0.31	0.09	8
		Maharashtra	1.71	1.32	7
56	Other manufacturing (329)	Haryana	0.35	0.08	1
		All India	0.40	0.13	
		Andhra Pradesh	0.43	0.13	38
		West Bengal	0.22	0.02	11
		Maharashtra	0.72	0.46	9
		Uttaranchal	0.52	0.27	8
		Tamil Nadu	0.35	-0.01	8

Source: Calculated from supplement to Annual Survey of Industries 2011-12.

The table shows that in case of four industries namely manufacture of articles of fur, spinning weaving and finishing of textile, Manufacture of knitted and crocheted apparel industry and Manufacture of irradiation, electro medical and electrotherapeutic equipment industries, Haryana is ranked number one in both the net value added and profit per unit of invested capital.

S.No.	Industry	Net value added per unit of invested capital	Profit per unit of invested capital
1	Manufacture of articles of fur	1	1
2	Spinning weaving and finishing of textiles	1	1
3	Manufacture of knitted and crocheted apparel	1	1
4	Manufacture of irradiation, electro medical and electrotherapeutic equipment	1	1
5	Manufacture of paper and paper products	1	2
6	Tanning and dressing leather, luggage, handbags, saddler and harness, dressing and dyeing of fur	1	2
7	Manufacture of communication equipment	1	2
8	Manufacture of animal feeds	2	1
9	Manufacture of manmade fibers	2	2
10	Manufacture of general purpose machinery	2	2
11	Manufacture of footwear	2	2

Source: Calculated from table 3

vis-à-vis other leading states. Also, in Manufacture of paper, paper products, Tanning and dressing of leather, Manufacture of luggage, handbags, saddler and harness, dressing and dyeing of fur and Manufacture of communication equipment, the state has highest net value added per unit of invested capital in comparison to the other leading states. Interestingly, all these three industries also have the second highest rank in terms of profit per unit of invested capital vis-à-vis all major states of India.

In addition to this, Manufacture of manmade fibers, Manufacture of general purpose machinery, Manufacture of footwear have the second highest rank in net value added per unit of invested capital and profit per unit invested capital in comparison to all India for the time period 2011-12. A comparison of top twenty competitive manufacturing industries in Haryana (Table 3) with the dominant and fastest growing industries show that there is only one industry i.e. Manufacture of footwear which is common to all the lists. Further, there are four industries namely Manufacture of basic iron and steel, Spinning weaving and finishing of textiles, Manufacture of general purpose machinery and Manufacture of pharmaceutical products that are dominating as well as competitive vis-à-vis other states of the union. In addition to this, three industries i.e. Tanning and dressing leather, luggage, handbags, saddler and harness, dressing and dyeing of fur, Manufacture of manmade fibers and Casting of metal industries are such which are fastest growing as well as competitive vis-a- vis other Indian states. Thus, from the above discussion it can be concluded that competitive industries in Haryana share little correlation with the fastest growing and dominant manufacturing industries in Haryana. An effort on war-footing basis is required to develop a synergy among the dominant, fastest growing and competitive industries in Haryana.

V. CONCLUSION

The present study identifies the promising manufacturing industries in Haryana. Evidences of the above study clearly and consistently indicate the bright prospects and good scope of development of many manufacturing industries in the state. In the case of many other manufacturing industries evidence is equally clear about bleak prospects of further development. However, available evidence is not consistent in case of a number of manufacturing industries and about these, no straight mechanical conclusions can be drawn. In such situations one has to draw conclusions by exercising own informed judgment. On the basis of these evidences, we can say with some confidence that following manufacturing industries have a good scope of development in Haryana.

1. Manufacture of footwear
2. Manufacture of basic Iron and steel
3. Spinning weaving and finishing of textiles
4. Manufacture of general purpose machinery
5. Manufacture of pharmaceutical products
6. Tanning and dressing of leather, manufacture of luggage, handbags, saddler and harness, dressing and dyeing of fur
7. Manufacture of manmade fibers
8. Casting of metals
9. Manufacture of parts and accessories for motor vehicles and their engines.
10. Manufacture of motor vehicle
11. Manufacture of wearing apparel, except fur apparel
12. Manufacture of electric motors, generators, transformers and electricity distribution and control apparatus
13. Manufacture of electronic components
14. Manufacture of grain mill products, starch and starch products
15. Manufacture of other fabricated metal products, metalworking service activities
16. Manufacture of other textile
17. Manufacture of beverages

VI. RECOMMENDATIONS AND POLICY IMPLICATIONS

A series of recommendations are being given to sharpen the wave of industrialization in the state.

1. The discussion has brought to light a little correlation between fastest growing, dominant and competitiveness industries in the state, Hence, government should come at frontage and not only formulate but also execute the policies in such a manner by which manufacturing sector can develop in all above aspects equally.
2. Infrastructure is a key requirement for development of manufacturing sector and scholars have highlighted the need for raising the necessary infrastructure at earliest. There is an urgent need to build world class infrastructure near the production centers like roads, warehouses, transport facility and power capacity. Hence, it is suggested that along with government, financial institutions like NABARD, SFCs, SSICs and commercial banks should come forward to provide basic and necessary infrastructure with timely credit facilities and required capital to expedite the industrialization in state.
3. It has been felt that performance of manufacturing industries in the state not only has an urgent need of innovative ideas but also to ascertain the optimum utilization of resources. Hence, we recommend balancing

the above mentioned aspects that can work as value additive factors in the utilization of inputs as capital and manpower, enhance the growth of industries in particular and economy at large.

4. Further, there is an urgent need of skilled manpower in industrial sector to compete its performance at national and international level. Hence forth, companies should organize frequent training programs in the premises for laborers as well as managerial staff to make them aware about latest technology of machine and mechanism. Government should arrange vocational courses, workshops and seminars time to time as per global standards of production and operational management.
5. Export is also an important instrument for any industry which can scale up the size of manufacturing unit in the state as well as in nation. But export remained a big challenge for many industrial units due to complicated rules and regulations imposed by the governments. Therefore, it is suggested that government should establish export houses and formulate such policies with relaxation in quantitative restrictions of taxes and octroi by which these manufacturing industries can be benefitted. Government should also establish Special Economic Zones for these very industries which would enable industrial sector more competitive at global level.
6. Industries figuring in laggard list do affect the overall industrialization scenario in the state. State Government should analyze the strength and weakness of these industries and design such policies that can provide a boost to the low performing manufacturing industries in the state so that these industries may also be converted into dominant industries over a period of time.

Only a timely effort by the government to boost manufacturing industries can help to revive the wave of industrialization in the state.

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