# INVESTMENT PATTERN OF LARGE SCALE INDUSTRY OF PUNJAB: AN EMPIRICAL ANANLYSIS

#### **Bikramjit Singh**

Associate Professor and Head, P.G. Department of Commerce Mata Gujri College, Fatehgarh Sahib (Pb.)

**Abstract:** The present empirical analysis is confined to the investment pattern of large scale industrial units of Punjab. The study covers district wise distribution of investment in the large scale industrial units of Punjab for the period ranging from 2003-04 to 2013-14. It is found that keeping in view the existing trend equation, the predicted amount of fixed investment in Barnala, Faridkot, Tarn Taran, S.A.S. Nagar, Amritsar, Ludhiana, Nawanshahar, Fatehgarh Sahib, Kapurthala, Moga, Muktsar, Bathinda, Hoshiarpur and Jalandhar districts shows that the fixed investment to be made in the units of these districts is expected to increase in the year 2020-21 to Rs. 11315.73 crores, Rs. 911.35 crores, Rs. 372.77 crores, Rs. 26500.88 crores, Rs. 4134.81 crores, Rs. 21062.09 crores, Rs. 2714.41 crores, Rs. 1090.41 crores, Rs. 3764.73 crores, Rs. 1108.85 crores, Rs. 659.42 crores and Rs. 9192.89 crores, Rs. 3605.93 crores and Rs. 983.73 crores respectively.The trend equation reveals that fixed in<mark>vestme</mark>nt in various units of the industries is expected to increase by 2020-21 except in the units of D4, D5 and D14 industries where the fixed investment is likely to decline significantly by the year 2020-21. The amount of fixed investment in D3 is expected to increase in the year 2020-21 to Rs. 35374.96 crores from the year 2013-14 (Rs.19249.08 crores). This is expected to be followed by D6, D8, D9, D10, D12, D7, D15, D11, D16 and D13 where the fixed investment to be made in these industries is expected to increase to Rs.4882.97 crores, Rs.13336.45 crores, Rs.1271.49 crores, Rs.1129.23 crores, Rs. 555.13 crores, Rs. 138.81 crores, 7128.85 crores, Rs.2602.05 crores, Rs.5829.49 crores and Rs.763.84 crores in the 2020-21 respectively.

## **Key Words: Large Scale Industry, Growth Rate, Investment**

## **Section I-Introduction:**

In the developing countries for instance India, a high degree of correlation is said to exist between extent of industrialization and the levels of per capita income. However, this correlation is not considered as perfect, but it has been witnessed that the countries that are not much industrialized are poorest countries in contrary to the countries that are more industrialized (Szrima, 2009). Kaldor (1966) explicated this correlation widely known as Kaldor's first law. This law affirms that there exists a strong positive relationship between the growth of GDP and growth of the manufacturing sector. He remarked that when industrial production and the output increase, labour forces are absorbed from the sectors with veiled unemployment and surplus labour in such a way that this shift does not lead to decline in the output of these sectors and as a consequence, productivity also increases outside the industrial sector (Felipe, 1998).

In addition to this, Kuznets (1965) has observed that quick growth in the productivity of industrial sector is an indispensable constituent in the complete and balanced structural transformation of an economy. The central aspect of the developed economies is their pace of industrialization, which is considered as a strong weapon to fight against poverty resulted from lower levels of employment or less amount of working population. It is an indispensable part of the economic development of any nation's economy, as it is considered as constructive element for the growth and development of the economies. The output of the industrial sector resulting in its key development mainly depends on the amount of investment and form of technology being incorporated, both of which can be augmented for further development of the sector. As a result, it can be inferred that industrialization is a key for development of the economies, moreover, as development of one sector has its effect on the other sectors also, likewise, the development of the industrial sector will also lead to development of other sectors too. It is also helpful in the creation of extensive opportunities of employment, raising the output levels and thereby helps in the improvement of standard of living. The state governments have acquired a very important role in the new environment in attracting private investment through creating competitive conditions for investment in their states. This includes facilitating infrastructure development and skill development as well as enhancing the ease of doing business by ensuring good governance, administrative efficiency and maintaining law and order.

## **Section II-Objectives of the Study:**

The study is confined to large scale industrial units of Punjab. The district wise distribution of investment in the large scale industries of Punjab during the period ranging from 2003-04 to 2013-14 is under consideration. The main objective of the present empirical study is to find out how much amount of investment is occured in large scale industrial units of Punjab state.

## Section III-Data Base, Sample Size and Research Methodology:

The study covers district wise distribution of investment in the large scale industries of Punjab for the period ranging from 2003-04 to 2013-14. For achieving the main objectives of the present empirical study mean, standard deviation, Coefficient of variation, CAGR (Compound Annual Growth Rate), t-test and Trend Coefficients are used to come to the final conclusions and findings. The following abbreviations are used for writing the results of this stusy in which D1 denotes Food Products, D2 denotes Beverages, D3 denotes Textile and Yarn including Dyeing, D4 denotes Hosiery & Garments, D5 denotes Leather & Leather Products, D6 denotes Paper & Printing, D7 denotes Coal, Coke & Petroleum Products, D8 denotes Chemical Products, D9 denotes Rubber & Plastic Products, D10 denotes Non-metallic Mineral Products, D11 denotes Basic Metal Products, D12 denotes Metal Products, D13 denotes Machinery & Parts except Elec., D14 denotes Electrical Machinery & Parts, D15 denotes Transport Equipment & Parts, D16 denotes Misc. Industries. The paper is organized into five sections. Section I provides the introduction about the investment pattern of large scale industry of Punjab. Section II defines the main objectives of the present study. Section III deals with data source, sample size & research methodology to

be followed in the study. Section IV presents reports and analysis of the empirical results of the study. Section V summarizes and concludes the study.

### **Section IV-Empirical Results:**

Table 4.1 exhibited that fixed investment in Tarn Taran district registered a significant rise from Rs. 44.06 crores of investment made in 206-07 to Rs. 160.05 crores of fixed investment in 2013-14 at the highest rate of CAGR of 33.47 percent which tends out to be significant (t-value=2.2 at five percent level). Hence, amount of fixed investment made in the large scale industries of this district over the years grew significantly over respective period. The lowest growth rate of the fixed investment has been found in Jalandhar district where the amount of fixed investment made grew at CAGR of only 6.75 percent (tvalue=5.84). On the other hand, rate of the fixed investment declined in the Fazilka district from Rs. 7817.69 crores made in 2010-11 to Rs. 196.75 crores in 2013-14 at the negative CAGR of -66.76 percent, which has been found to be insignificant (t-value= -1.72). Keeping in view the existing trend equation, the predicted amount of fixed investment in Barnala, Faridkot, Tarn Taran, S.A.S. Nagar, Amritsar, Ludhiana, Nawanshahar, Fatehgarh Sahib, Kapurthala, Moga, Muktsar, Bathinda, Hoshiarpur and Jalandhar districts shows that the fixed investment to be made in the units of these districts is expected to increase in the year 2020-21 to Rs.11315.73 crores, Rs.911.35 crores, Rs.372.77 crores, Rs.26500.88 crores, Rs.4134.81 crores, Rs.21062.09 crores, Rs.2714.41 crores, Rs.1090.41 crores, Rs.3764.73 crores, Rs.1108.85 crores, Rs.659.42 crores and Rs.9192.89 crores, Rs. 3605.93 crores and Rs.983.73 crores respectively. On the other hand, fixed investment to be made in the units of Gurdaspur and Sangrur is expected to decrease toRs.825.68 crores and Rs.2439.58 crores respectively by the year 2020-21. Alternatively, it can be projected that the fixed investment to be made in the units of Pathankot, Fazilka, Ferozepur, Patiala, Roopnagar/ Ropardistricts is expected to decline extensively by the year 2020-21. Thus, investment in the units is expected to increase at fast pace in the Barnala district from Rs. 2930.77 crores made in the year 2013-14 to Rs.11315.73 crores in 2020-21, but least increase in the investment expected to be seen in Jalandhar district where it is expected to increase from Rs.858.84 crores made in 2013-14 to Rs. 983.73 crores to be made in the year 2020-21. Table 4.2 shows the industry wise distribution of fixed investment in the large scale industries of Punjab for the period ranging from 2003-04 to 2013-14. D3 (13272.98) recorded the highest mean score during the period under study signifying that relatively more investment has been made in the units of this industry in comparison to other industries. This has been followed D8(5384.80), D1 (4439.17),D15(3312.80), by

Table: 4.1 FIXED INVESTMENT (in crores): DISTRICT WISE IN LARGE SCALE INDUSTRIAL UNITS OF PUNJAB

District	Amritsar	Barnala	Bathinda	Faridkot	Fatehgarh	Fazilka	Ferozepur	Gurdaspur	Hoshiarpur	Jalandhar	Kapurthala
Year					Sahib						
2003-04	1007.23	Nil	1940.48	43.21	267.36	0	166.02	212.61	1462.86	416.88	1213.68
2004-05	1184.74	Nil	1944.4	43.56	286.67	0	154.93	279.66	1424.65	427	1159.01
2005-06	1356.17	Nil	2068.16	44.09	356.34	0	153.57	226.9	1461.8	446.09	1230.32
2006-07	921.33	1237.71	2059.76	43.98	382.69	0	132.44	193.73	1518.97	405.88	1219.21
2007-08	939	1541.39	2392.06	226.55	675.37	0	142.65	201.32	1651.62	442.73	1660.16
2008-09	1193.44	2383.32	2509.91	226.71	872.08	0	227.5	331.34	2399.48	508.91	1919.46
2009-10	1226.65	2881.12	4083.94	19.71	918.2	0	229.87	273.29	1999.74	500.17	1694.8
2010-11	2233.97	3132.42	6755.66	1863.88	387.72	7817.69	270.81	66.96	1999.48	532.6	2155.99
2011-12	5401.05	5076.06	5318.35	18.56	564.21	194.35	56.8	359.57	2449.85	551.21	2234.42
2012-13	1440.57	7444.95	2702.52	307.53	755.85	200.69	95.64	412.93	2131.81	754.97	2645.79
2013-14	2191.26	2930.77	7478.72	307.52	689.81	196.75	142.86	985.97	3060.03	858.84	2645.75
Mean	1735.95	3328.47	3568.54	285.94	559.66	764.50	161.19	322.21	1960.03	531.39	1798.05
Std. dev	1296.42	2030.29	2045.62	536.18	236.05	2341.03	61.60	239.14	524.15	146.28	566.34
cv	74.68	61.00	57.32	187.52	42.18	306.22	38.22	74.22	26.74	27.53	31.50
CAGR	10.37	34.58	13.36	20.33	9.84	-66.76	-3.35	8.32	7.14	6.75	9.66
t-value	2.41	3.44	-0.112	1.39	2.91	-1.72	-0.811	1.34	6.01	5.84	10.55
Trend Co	efficients		1	3.4			. Alter				
a	536.43	666.03	756.29	-26.81	29 <mark>4</mark>	7816.49	-176.42	70.4	1137.05	305.13	814.71
b	199.91	591.65	468.7	52.12	44.23	-2285.64	-2.53	41.96	137.16	37.7	163.89
Predic	ctions										
2020-21	4134.81	11315.73	9192.89	911.35	1090.41	-33325.03	-221.96	825.68	3605.93	983.73	3764.73

Contd.

District	Ludhiana	Mansa	Moga	Muktsar	Nawanshahar	Patiala	Pathankot	Roop Nagar	S.A.S.	Sangrur	Tarn Taran
Year									Nagar		
2003-04	5061.59	0	284.93	168.85	732.59	3690.05	0	2540.18	0	1880.67	0
2004-05	5637.56	0	303.91	171.17	671.97	3617.07	0	2472.59	0	2173.72	0
2005-06	5604.71	0	316.8	197.58	829.66	4539.35	0	2458.15	0	2844.45	0
2006-07	5732.68	0	314.19	185.99	1040.69	1414.75	0	924.33	4221.49	1291.7	44.06
2007-08	6697.34	0	354.97	193.89	1091.87	1450.66	0	1109.95	6240.69	1526.7	28.7
2008-09	7402.39	0	381.06	268.16	1279.92	1459.43	0	836.38	6299.09	1698.83	29.32
2009-10	8301.73	0	445.44	289.43	1145.17	1303.99	0	1128.14	6441.81	1802.35	8.27
2010-11	22378.58	0	559.02	267.98	1619.08	1054.16	100	1197.22	5991.38	1955.28	114.45
2011-12	9122.76	0	599.31	389.51	1816.79	1377.47	127.16	1227.87	10877.14	2281.52	131.82
2012-13	13326.56	0	772.6	441.95	1981.89	1309.51	172.97	1238.1	13093.06	2329.99	144.69
2013-14	11620.02	0	801.6	484.41	1536.03	1601.08	174.13	1281.15	13570.63	2526.91	160.05
Mean	9171.45	0.00	466.71	278.08	1249.61	2074.32	52.21	1492.19	6066.84	2028.37	60.12
Std. dev	5114.92	0.00	189.05	112.95	439.79	1232.79	75.12	654.96	4928.17	455.18	64.00
cv	55.77	#DIV/0!	40.51	40.62	35.19	59.43	143.89	43.89	81.23	22.44	106.44
CAGR	11.52	0.00	11.72	11.76	10.83	-10.75	-0.83	-6.79	17.35	1.91	33.47
t-value	3.92	0	11.6	10.09	8.1	-3.32	-0.278	-2.15	5.88	0.85	2.2
Trend Cod	efficients						NE 1	7			
a	3226.07	0	145.67	87.38	517.15	3712.24	9976.85	2275.45	2288.9	1822.72	-14.05
b	990.89	0	53.51	31.78	122.07	-272.98	-2943.28	-130.54	1345.11	34.27	21.49
Predictions											
2020-21	21062.09	0.00	1108.85	659.42	2714.41	-1201.40	-43002.19	-74.27	26500.88	2439.58	372.77
a b:	. CT 1	. 1.0	D ' 1		70000		1	1		ı.	

Source: Directorate of Industries and Commerce, Punjab

Table 4.2 LARGE SCALE INDUSTRIES PUNJAB - INDUSTRY WISE - FIXED INVESTMENT (CRORES)

Industry	D1	D2	D3	D4	D5	D6	D7	D8
Year								
2003-04	2479.49	795.85	6249.66	485.68	50.08	956.02	Nil	3094.68
2004-05	2527.01	746.14	6708.46	649.14	48.94	1040.37	Nil	3150.58
2005-06	3194.87	785.9	7364.76	748.32	38.43	1150.08	Nil	3275.56
2006-07	2535.08	779.95	6842.24	565.92	22.38	1150.34	Nil	3803.11
2007-08	2814.8	924.41	10120.35	673.53	34.7	1255.9	56.25	4278.32
2008-09	3230.49	1166.48	10863.56	707.15	34.71	2405.7	91.41	4293.46
2009-10	4046.65	1066	10005.93	560	0.01	2795.57	83.66	4942.53
2010-11	5454.87	NIL	26572.83	100.08	2.68	2619.95	124.55	6429.44
2011-12	5141.11	NIL	20917.69	140.72	2.79	2875.03	27.22	7148.57
2012-13	7877.97	NIL	21108.18	140.69	17.22	2753.47	110.94	10653.02
2013-14	9528.52	NIL	19249.08	122.60	16.05	2948.43	111.00	8163.56
Mean	4439.17	894.96	13272.98	444.89	24.36	1995.53	86.43	5384.80
Std. dev.	2370.13	163.78	7263.13	263.10	18.25	861.59	34.42	2438.77
CV	53.39	18.30	54.72	<b>5</b> 9.14	74.90	43.18	39.82	45.29
GROWTH	14.20	i i	15.70	-17.88	-23.96	14.32	4.77	12.81
t VALUE	7.62		6.35	-3.92	-1.17	7.40	0.43	9.82
a	645.03	V	2221.98	811.29	50.44	551.81	65.45	1408.98
b	632.36		1841.83	-61.07	-4.35	240.62	5.24	662.64
PREDIC	TIONS							
2020-21	12027.44	0.00	35374.96	-287.90	-27.79	4882.97	138.81	13336.45

Contd.

Industry Year	D9	D11	D10	D11	D12	D13	D14	D15	D16
2003-04	569.89	1243	309.91	1243	46.31	537.45	720.74	2153.72	1393.71
2004-05	448.28	1342.86	316.45	1342.86	58.01	549.16	698.31	2258.61	1410.29
2005-06	473.12	1432.6	336.6	1432.6	62.03	714.3	675.62	2386.19	1495.76
2006-07	700.29	1327.31	337.74	1327.31	64.63	671.99	465.53	2590.34	1428.73

2007-08	555.88	1686.8	556.71	1686.8	107.46	623.44	334.09	2749.34	1795.64
2008-09	900.63	1884.34	579.17	1884.34	151.34	774.77	323.69	2995.07	1825.76
2009-10	685.68	2351.14	762.62	2351.14	118.54	816.14	330.05	2963.57	3165.74
2010-11	613.53	1516.17	661.32	1516.17	130.94	544.17	334.06	3444.69	4320.27
2011-12	889.13	1766.33	676.17	1766.33	362.70	723.28	400.32	4716.62	4388.15
2012-13	1157.81	2118.16	700.77	2118.16	303.33	634.21	492.02	5043.83	593
2013-14	794.38	1891.21	707.53	1891.21	363.82	667.56	456.60	5138.79	5085.17
Mean	708.06	1687.27	540.45	1687.27	160.83	659.68	475.55	3312.80	2445.66
Std. dev.	213.08	353.94	179.93	353.94	122.71	93.50	155.06	1126.70	1520.76
CV	30.09	20.98	33.29	20.98	76.30	14.17	32.61	34.01	62.18
GROWTH	6.86	4.79	10.58	4.79	24.08	1.41	-5.25	9.77	8.54
t VALUE	3.49	3.42	6.36	3.42	9.53	1.04	-2.08	10.92	1.38
a	426.34	1229.88	246.06	1229.88	-36.33	607.60	652.21	1404.77	753.74
b	46.95	76.23	49.07	76.23	32.86	8.68	-29.44	318.00	281.99
PREDICTIONS			// 1/2	7		21/			
2020-21	1271.49	2602.05	1129.23	2602.05	555.13	763.84	122.23	7128.85	5829.49

Source: Directorate of Industries and Commerce, Punjab

D16 (2445.66), D11 (1687.27), D6 (1995.53), D9 (708.06), D13(659.68), D10(540.45) D14(475.55), D4(444.89) and D12(160.83). Alternatively, lowest mean score in terms of the fixed investment has been registered in D7 (86.43), indicating less amount of fixed investment made in the units of this industry. Coefficient of variation which is used to explain the percentage variation in the data of the variable, has been found to be maximum in D12(76.30 percent), followed by D5(74.90 percent), D16(62.18 percent), D4(59.14 percent), D3(54.72 percent), D1(53.39 percent), D8(45.29 percent), D6(43.18 percent), D7(39.82 percent), D15(34.01 percent), D10(33.29 percent), D14(32.61 percent), D9(30.09 percent) and D11(20.98 percent). D13 recorded a lowest coefficient of variation of 14.17, indicating that the data is less variable in comparison to D12, in which highest variation in the data has been found. Table 4.2 exhibited that the fixed investment in number of units of D12 has augmented from Rs.46.31 crores in 2003-04 to Rs.363.82 crores in 2013-14 at the highest rate of CGR of 24.08 percent which has been found to be highly significant(t-value=9.53 at five percent level). Hence, D12 has the maximum share of fixed investment among all the other industries and more growth in the amount of fixed investment has taken place in the units of this industry. The lowest growth rate in the investment has been seen in the D13 industry where it increased from Rs. 537.45 crores made in 2003-04 to Rs.667.56 crores made in 2013-14 at CAGR of only 1.41 percent which has been found to be insignificant(t-value=1.04). On the other hand, the fixed investment in the D5 industry has declined from Rs.50.08 crores made in the year 2003-04 to Rs.16.05crores investment made in 2013-14 at the negative rate of CAGR of -23.96 percent(t-value -1.17). The trend equation in Table 4.2 revealed that fixed investment in various units of the industries is expected to increase by 2020-21 except in the units of D4, D5 and D14 industries where the fixed investment is likely to decline significantly by the year 2020-21. The amount of fixed investment in D3 is expected to increase in the year 2020-21 to Rs. 35374.96 crores from the year 2013-14(Rs.19249.08 crores). This is expected to be followed by D6, D8, D9, D10, D12, D7, D15, D11, D16 and D13 where the fixed investment to be made in these industries is expected to increase to Rs.4882.97 crores, Rs.13336.45 crores, Rs.1271.49 crores, Rs.1129.23 crores, Rs. 555.13 crores, Rs. 138.81 crores, 7128.85 crores, Rs.2602.05 crores, Rs.5829.49 crores and Rs.763.84 crores in the 2020-21 respectively.

# **Section V-Summary & Conclusions:**

The study is confined to large scale industrial units of Punjab. The study covers district wise distribution of investment in the large scale industries of Punjab for the period ranging from 2003-04 to 2013-14 during the period under study. The following are the conclusion and findings of the present study regarding investment in the large scale industry of Punjab.

- (1) It is revealed that fixed investment in Tarn Taran district registered a significant rise from Rs. 44.06 crores of investment made in 206-07 to Rs. 160.05 crores of fixed investment in 2013-14 at the highest rate of CAGR of 33.47 percent which tends out to be significant (t-value=2.2 at five percent level). Hence, amount of fixed investment made in the large scale industries of this district over the years grew significantly over respective period.
- (2) It is observed that the lowest growth rate of the fixed investment has been found in Jalandhar district where the amount of fixed investment made grew at CAGR of only 6.75 percent (t-value=5.84).
- (3) It is found that rate of fixed investment declined in the Fazilka district from Rs. 7817.69 crores made in 2010-11 to Rs. 196.75 crores in 2013-14 at the negative CAGR of -66.76 percent, which has been found to be insignificant (t-value= -1.72).
- (4) It is found that keeping in view the existing trend equation, the predicted amount of fixed investment in Barnala, Faridkot, Tarn Taran, S.A.S. Nagar, Amritsar, Ludhiana, Nawanshahar, Fatehgarh Sahib, Kapurthala, Moga, Muktsar, Bathinda, Hoshiarpur and Jalandhar districts shows that the fixed investment to be made in the units of these districts is expected to increase in the year 2020-21 to Rs. 11315.73 crores, Rs. 911.35 crores, Rs. 372.77 crores, Rs. 26500.88 crores, Rs. 4134.81 crores, Rs. 21062.09 crores, Rs. 2714.41 crores, Rs. 1090.41 crores, Rs. 3764.73 crores, Rs. 1108.85 crores, Rs. 659.42 crores and Rs. 9192.89 crores, Rs. 3605.93 crores and Rs. 983.73 crores respectively.
- (5) It is found that fixed investment to be made in the units of Gurdaspur and Sangrur is expected to decrease to Rs. 825.68 crores and Rs. 2439.58 crores respectively by the year 2020-21.
- (6) It is projected that the fixed investment to be made in the units of Pathankot, Fazilka, Ferozepur, Patiala, Roopnagar/ Ropardistricts is expected to decline extensively by the year 2020-21.
- (7) It is revealed that investment in the units is expected to increase at fast pace in the Barnala district from Rs. 2930.77 crores made in the year 2013-14 to Rs.11315.73 crores in 2020-21, but the least increase in the investment expected to be seen in Jalandhar district where it is expected to increase from Rs.858.84 crores made in 2013-14 to Rs. 983.73 crores to be made in the year 2020-21.

- (8) It is seen that D3 (13272.98) recorded the highest mean score during the period under study signifying that relatively more investment has been made in the units of this industry in comparison to other industries.
- (9) It is shown that lowest mean score in terms of the fixed investment has been registered in D7 (86.43), indicating less amount of fixed investment made in the units of this industry.
- (10) It is found that coefficient of variation which is used to explain the percentage variation in the data of the variable, has been found to be maximum in D12 (76.30 percent), followed by D5 (74.90 percent), D16 (62.18 percent), D4 (59.14 percent), D3 (54.72 percent), D1 (53.39 percent), D8 (45.29 percent), D6 (43.18 percent), D7 (39.82 percent), D15 (34.01 percent), D10 (33.29 percent), D14 (32.61 percent), D9 (30.09 percent) and D11(20.98 percent). D13 recorded a lowest coefficient of variation of 14.17, indicating that the data is less variable in comparison to D12, in which highest variation in the data has been found.
- (11) It is found that the fixed investment in number of units of D12 has augmented from Rs.46.31 crores in 2003-04 to Rs.363.82 crores in 2013-14 at the highest rate of CGR of 24.08 percent which has been found to be highly significant(t-value=9.53 at five percent level). Hence, D12 has the maximum share of fixed investment among all the other industries and more growth in the amount of fixed investment has taken place in the units of this industry.
- (12) It is observed that the lowest growth rate in the investment has been seen in the D13 industry—where it increased from Rs. 537.45 crores made in 2003-04 to Rs. 667.56 crores in 2013-14 at CAGR of only 1.41 percent which has been found to be insignificant(t-value=1.04).
- (13) It is observed from the trend equation that fixed investment in various units of the industries is expected to increase by 2020-21 except in the units of D4, D5 and D14 industries where the fixed investment is likely to decline significantly by the year 2020-21. The amount of fixed investment in D3 is expected to increase in the year 2020-21 to Rs. 35374.96 crores from the year 2013-14 (Rs.19249.08 crores). This is expected to be followed by D6, D8, D9, D10, D12, D7, D15, D11, D16 and D13 where the fixed investment to be made in these industries is expected to increase to Rs.4882.97 crores, Rs.13336.45 crores, Rs.1271.49 crores, Rs.1129.23 crores, Rs. 555.13 crores, Rs. 138.81 crores, 7128.85 crores, Rs.2602.05 crores, Rs.5829.49 crores and Rs.763.84 crores in the 2020-21 respectively.

#### References

### **Journals**

- Ahluwalia, I.J.(1985) Industrial Growth in India: Performance and Prospects, *Journal of Development Economics*, Vol.23, No.1, pp. 1-18.
- Bhat, T.P. (2013). Growth and Structural Change in Indian Industry, Working Paper No. 2013/02, Institute for Industrial Studies, New Delhi.
- Chaudhury, Saumitra (2000): "State Government Finances", *Money and Finance*, ICRA Bulletin, Vol.2, No.1, May-June.
- Gadesha, Jignesh.H. (2012). Importance of Large Scale and Small Scale Industries in India. Research Expo International Multidisciplinary Research Journal, Vol.2, No.2, pp. 298-300.
- Khosla, Rajiv.Sidhu. H.S. and Dhillon, Singh, Sharanjit. (2012). Performance and Prospects of Agro-Processing Industries in Haryana. *Proceedings of 2nd International Conference on Business Management*, ISBN: 978-969-9368-06-6.
- Rajah, Rasiah. (1996). Manufacturing as Engine of Growth and Industrialisation in Malaysia.
   Managerial Finance, Vol. 22, No.5, pp. 87 117.
- Rao, Govinda, M. (2004). State Level Fiscal Reforms in India, in India's Emerging Economy, Oxford University, New Delhi.
- Sahapathi, Anisha. and Khanna, Parul. (2011). An Appraisal Of Small and Medium Enterprises
  (SMEs) in Haryana State of India, *International Journal of Multidisciplinary Research*, Vol.1,
  No. 6, pp. 312-324.
- Singh, Lakhwinder. (1994).Productivity, Competitiveness, and Export Growth in a Less Developed Economy: A Study of Indian Punjab. *Centre Discussion Paper No. 714, Economic Growth Center, Yale University*.
- Szirmai, Adam. (2012). Industrialisation as an engine of growth in developing countries, 1950–2005. *Structural Change and Economic Dynamics*, Vol. 23, No.4, pp. 406–420.

## Reports

- Directorate of Industries and Commerce, Haryana
- Directorate of Industries and Commerce, Punjab
- Statistical Abstract of Haryana
- Statistical Abstract of Punjab