# A DISTRICT WISE STUDY OF LARGE SCALE INDUSTRIAL UNITS IN PUNJAB

**Bikramjit Singh**

Associate Professor and Head, P.G. Department of Commerce

Mata Gujri College, Fatehgarh Sahib (Pb.)

**Abstract:** Large scale industries hold eminent position in the economies as a number of other industries are mainly dependent on the output of these industries. The present study is an attempt made to examine the concentration of large scale industries in different districts of Punjab during 2003-04 to 2013-14. The analysis of distribution of industries showed that maximum number of large scale industries are concentrated in Ludhiana district. This is indicated by its highest average number (128.91) of industries than other districts. Other districts recorded less than 50 industries on an average. These include S.A.S. Nagar (47.09), Patiala (44.55), Amritsar (27.09), Sangrur (25.73), Hoshiarpur (23.09), Jalandhar (20.09), Bathinda(15.45), Ropar(14.91), Fatehgarh Sahib(14.55), Gurdaspur(12.64) and Ferozepur(12.36). While, a relative lower mean score (less than 10 industries) has been registered in the districts of Nawanshahr (9.36), Kapurthala (6.91), Barnala (6.88), Muktsar (4.73), Moga (4), Tarn Taran (2.45) during 2003-03 and 2013-14, signifying existence of lesser number of units in these districts. Significantly lesser number of industries have been found in the districts of Pathankot, Fazilka and Faridkot districts. Pathankot district recorded average score of 1.36, with Fazilka and Faridkot recorded 2 mean score each respectively. In terms of growth of industries during 2003-04 and 2013-14, study exhibited that when Fazilka district recorded highest CAGR of 79.27 percent, indicating that the number of industries grew significantly in the district compounded annually, during the period of study. While, lowest growth rate with respect to number of large units has been witnessed in the Roopnagar/Ropar district where the number of units decreased from 49 units in 2003-04 to 4 units in 2013-14. From the point of view of the trend equation, the number of units of Roopnagar, Ferozepur, Patiala, Sangrur, Gurdaspur and Amritsar, are expected to decline by the year 2020-21 respectively. On the other hand, the number of units in Fazilka, Pathankot, Jalandhar, Tarn Taran, Bathinda and Barnala districts shows that the numbers of units are expected to increase to 33 units, 8 units, 39 units, 11 units, 21 units and 7 units respectively.

**Key Words: Punjab, Large scale industries, Growth, District wise.**

**Section I-Introduction:**

Indian economy is known for being an agrarian economy. Agricultural sector contributed significantly to the share of the Gross Domestic Product (GDP) of our economy. Along with the agricultural sector, another sector that holds importance for the development of economies is the industrial sector. This is evident from the contribution of the sector to GDP of our economy. In 2013-14, agricultural sector contributed 13.9% to the GDP of India, while industrial sector contributed 26.1 percent to the GDP of our country. But, industrial sector contribution is still considered less relative to its' service sector that contributed 59.9% to India's GDP. This is majorly due to the two setbacks suffered by the industrial sector. Firstly, at the time of independence and then at the time of adoption of new economic policy. The existence of this sector became more evident during these periods. With the adoption of new economic policy, swift competition was created between the economies. It not only resulted in export competitiveness of the developing economies but helped the economies to achieve a higher growth rate. It has been witnessed that the countries with more growth in the manufacturing sector has shown significant increase in the share of industry in the labour force whereas for the countries with lower growth rate of manufacturing, the transformation in this shift has been less or nearly negative. In addition to this, industrial sector within an economy is also important for the development of agricultural sector also. It is the industrial sector that helps in the development of agricultural sector with the provision of latest and upgraded technologies. Particularly, large scale industries hold eminent position, as these are engaged in the production of capital goods including heavy machineries and equipment, heavy chemicals and others that helps the economies to carve out unique competitive position among other economies. This further helps in import substitution of the capital goods that can be produced within the boundaries of an economy. This indicates that the development of these industries is not linked to some of the sectors of the economy, but linked with a number of industries, be it agricultural sector, information and communication technology, transport sector, among others, that depend on large scale industries to a great extent. The state of Punjab is well known for the wider dispersal of a number of large scale industries vis-à-vis textile and yarn industry, steel industry, transport equipment and parts among others. The paper is divided into different sections. Section I gives an overview about the large scale industrial units in Punjab. Section II outlines the main objectives of the proposed study. Section III discusses the methodology followed to carry out the present study. Section IV covers the detailed analysis carried out to achieve the objectives of the study. Section V summarizes and concludes findings of the study.

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

The study explores the dispersal of large scale industries in Punjab from 2003-04 to 2013-14. The main objective of the study is to examine district wise spread of large scale Industries in Punjab and estimate their expected growth by the year 2020-21.

**Section III- Research Methodology:**

The present study is focused on the large scale industrial units of Punjab. For the purpose, district wise spread of these industries from the year 2003-04 to 2013-14 is examined from secondary sources of data collected from statistical abstracts of Punjab and Directorate of Industries, Punjab. Then, a detailed analysis of the collected data is made using various statistical tools. Arithmetic mean is used to determine the existence of average units in various districts. Standard deviation and coefficient of variation is used to study the extent of variability of units during the period of study. Compounded Annual Growth Rate (CAGR) has been calculated to study the growth of large scale industries in various districts of Punjab during the period of study. The t-distribution have been used to determine a probability of difference between populations. In order to estimate the growth of units in different districts of Punjab by the year 2020-21, trend equation has been used.

**Section IV-Empirical Findings and Discussion:**

This section covers the empirical analysis to achieve the main objective of the study. Table 4 depicted district wise distribution of number of units of large scale industries in Punjab for the period ranging from 2003-04 to 2013-14. Ludhiana (128.91) recorded the highest mean score during the period under study followed by S.A.S. Nagar (47.09), Patiala (44.55), Amritsar (27.09), Sangrur (25.73), Hoshiarpur (23.09), Jalandhar (20.09), Bathinda (15.45), Ropar (14.91), Fatehgarh Sahib (14.55), Gurdaspur (12.64), and Ferozepur (12.36). On the other hand, Nawanshahr (9.36), Kapurthala (6.91), Barnala (6.88), Muktsar (4.73), Moga (4), Tarn Taran (2.45) scored relatively lower mean score. During the same period, Pathankot (1.36) showed a lowest mean score in the number of units with Fazilka and Faridkot just a little ahead at 2 in terms of the number of district wise large scale units in Punjab.

To examine the variability in spread of units in different districts of Punjab, coefficient of variation (CV) has been calculated. CV regarding number of units in the large scale units of Punjab has been recorded highest in Fazilka (161.25 percent), Pathankot (140.19 per cent) followed by Roopnagar/Ropar (126.21 per cent), Tarn Taran(86.16 percent), Patiala (69.62 percent), S.A.S. Nagar (64.71per cent), Amritsar(57.95 percent), Ferozepur(48.97 percent), Sangrur(48.18 percent), Gurdaspur(39.45 percent), Moga(35.36 percent), Muktsar(31.51 percent), Fatehgarh Sahib(26.87 percent), Kapurthala(26.26 percent). Barnala recorded a lowest coefficient of variation (5.14 per cent). Therefore, least degree of dispersion is found in Barnala indicating data is less variable or more stable than the data with higher CV in other cities.

Table 4 exhibited that when Fazilka was made district in 2011, one unit existed in the district. Then, it has been observed that number of units increased to 7 units in 2013-14. The compounded annual growth rate (CAGR) these units during this period has been found to be highest at 79.27 percent among growth of units in other districts. This growth rate came out to be significant with t-value of 1.73 at five percent level. Hence, the number of units in the Fazilka district grew significantly as compared to the growth in the number of units in other districts of Punjab. The lowest growth rate of the units has been seen in the Roopnagar/Ropar district where the number of units decreased from 49 units in 2003-04 to 4 units in 2013-14. Moreover, it has been seen that the number of units started declining constantly to 4 units only after the year 2005-06 and

onwards and thus CAGR regarding the number of units was found to be insignificant (t-value= -3.73) at the rate of -23.14 percent compounded annually.

Trend equation helps in predicting the variable under study. From the point of view of the trend equation, the number of units of Roopnagar, Ferozepur, Patiala, Sangrur, Gurdaspur and Amritsar, are expected to decline by the year 2020-21 respectively. On the other hand, the number of units in Fazilka, Pathankot, Jalandhar, Tarn Taran, Bathinda and Barnala districts shows that the numbers of units are expected to increase in these districts to 33 units, 8 units, 39 units, 11 units, 21 units and 7 units respectively. The number of units in Fatehgarh Sahib, Nawanshahr and S.A.S Nagar are expected to decline slightly by the year 2020-21. Thus, the number of units are going to increase at fast pace in the Fazilka district as only 7 units were established in the year 2013-14, but this number is expected to increase to 33 units in the year 2020-21. Conversely, the number of units in Hoshiarpur, Kapurthala, Ludhiana and Muktsar are expected to decline from 21 units, 6 units, 153 units, 4 units in 2013-14 to 15 units, 2 units, 117 units, 01 unit respectively in 2020-21. A substantial decline in the number of units is expected to be seen in the Roopnagar district, where the number of units are expected to decline significantly by the year 2020-21. It has been evident that even though industrial walk in the Fazilka district started in the year 2010 when it was declared as a district, but the number of units has increased in the district more in comparison to other districts and the pace is expected to persist and thus the number units are expected increase further by the year 2020-21.

## TABLE 4: DISTRICT WISE NO. OF UNITS OF LARGE SCALE INDUSTRIES IN PUNJAB

| District / Year | Amritsar | Barnala | Bathinda | Faridkot | Fatehgarh Sahib | Fazilka | Ferozepur | Gurdaspur | Hoshiarpur | Jalandhar | Kapurthala |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2003-04** | 51 | Nil | 13 | 2 | 16 | 0 | 22 | 17 | 28 | 27 | 9 |
| **2004-05** | 51 | Nil | 14 | 2 | 15 | 0 | 20 | 21 | 29 | 25 | 10 |
| **2005-06** | 49 | Nil | 16 | 2 | 17 | 0 | 19 | 19 | 26 | 25 | 10 |
| **2006-07** | 13 | 7 | 12 | 2 | 13 | 0 | 12 | 13 | 20 | 18 | 6 |
| **2007-08** | 13 | 7 | 14 | 2 | 8 | 0 | 12 | 13 | 21 | 18 | 6 |
| **2008-09** | 13 | 7 | 16 | 2 | 11 | 0 | 14 | 14 | 23 | 18 | 6 |
| **2009-10** | 13 | 7 | 17 | 2 | 11 | 0 | 11 | 12 | 22 | 16 | 6 |
| **2010-11** | 23 | 6 | 17 | 2 | 13 | 1 | 11 | 5 | 21 | 18 | 6 |
| **2011-12** | 23 | 7 | 17 | 2 | 15 | 7 | 4 | 7 | 22 | 17 | 5 |
| **2012-13** | 24 | 7 | 17 | 2 | 20 | 7 | 5 | 9 | 21 | 19 | 6 |
| **2013-14** | 25 | 7 | 17 | 2 | 21 | 7 | 6 | 9 | 21 | 20 | 6 |
| **Mean** | 27.09 | 6.88 | 15.45 | 2.00 | 14.55 | 2.00 | 12.36 | 12.64 | 23.09 | 20.09 | 6.91 |
| **Std. dev** | 15.70 | 0.35 | 1.86 | 0.00 | 3.91 | 3.22 | 6.05 | 4.99 | 3.11 | 3.75 | 1.81 |
| **CV** | 57.95 | 5.14 | 12.06 | 0.00 | 26.87 | 161.25 | 48.97 | 39.45 | 13.48 | 18.68 | 26.26 |
| **CAGR** | -6.77 | -0.18 | 2.94 | 0.00 | 2.26 | 79.27 | -14.30 | -9.97 | -2.77 | -3.46 | -5.44 |
| **t-value** | -1.635 | 3.753 | 3.495 | 0 | 0.815 | 1.73 | -6.269 | -4.002 | -3.176 | -2.645 | -3.63 |
| **Trend Coefficients** | | | | | | | | | | | |
| **a** | 43.23 | 6.929 | 12.836 | 0 | 12.25 | 1 | 22.61 | 20.32 | 27.23 | 24.72 | 9.41 |
| **b** | -2.69 | 0.012 | 0.436 | 0 | 0.38 | 1.8 | -1.71 | -1.28 | -0.69 | 0.77 | -0.41 |
| **Predictions** | | | | | | | | | | | |
| **2020-21** | -5 | 7 | 21 | 0 | 19 | 33 | -8 | -3 | 15 | 39 | 2 |

**Contd.**

| District / Year | Ludhiana | Mansa | Moga | Muktsar | Nawanshahr | Patiala | Pathankot | Roop Nagar | S.A.S. Nagar | Sangrur | Tarn Taran |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2003-04** | 153 | 0 | 4 | 7 | 11 | 98 | 0 | 49 | 0 | 44 | 0 |
| **2004-05** | 154 | 0 | 5 | 7 | 10 | 90 | 0 | 44 | 0 | 46 | 0 |
| **2005-06** | 146 | 0 | 6 | 7 | 10 | 89 | 0 | 39 | 0 | 45 | 0 |
| **2006-07** | 104 | 0 | 2 | 4 | 9 | 24 | 0 | 4 | 61 | 18 | 3 |
| **2007-08** | 108 | 0 | 2 | 4 | 9 | 24 | 0 | 4 | 66 | 19 | 2 |
| **2008-09** | 116 | 0 | 2 | 4 | 9 | 24 | 0 | 4 | 69 | 19 | 2 |
| **2009-10** | 113 | 0 | 4 | 4 | 9 | 24 | 0 | 4 | 70 | 19 | 1 |
| **2010-11** | 112 | 0 | 4 | 3 | 9 | 24 | 3 | 4 | 56 | 18 | 4 |
| **2011-12** | 115 | 0 | 5 | 4 | 9 | 25 | 4 | 4 | 65 | 19 | 4 |
| **2012-13** | 144 | 0 | 5 | 4 | 9 | 33 | 4 | 4 | 65 | 18 | 5 |
| **2013-14** | 153 | 0 | 5 | 4 | 9 | 35 | 4 | 4 | 66 | 18 | 6 |
| **Mean** | 128.91 | 0.00 | 4.00 | 4.73 | 9.36 | 44.55 | 1.36 | 14.91 | 47.09 | 25.73 | 2.45 |
| **Std. dev** | 20.66 | 0.00 | 1.41 | 1.49 | 0.67 | 31.01 | 1.91 | 18.82 | 30.47 | 12.39 | 2.11 |
| **CV** | 16.02 | 0.00 | 35.36 | 31.51 | 7.20 | 69.62 | 140.19 | 126.21 | 64.71 | 48.18 | 86.16 |
| **CAGR** | -0.72 | 0.00 | 2.44 | -6.41 | -1.57 | -11.12 | 9.01 | -23.14 | 0.09 | -9.36 | 16.60 |
| **t-value** | -0.453 | 0 | 0.583 | -3.461 | -3.563 | -2.56 | 1.73 | -3.73 | 0.073 | -3.77 | 2.02 |
| **Trend Coefficients** | | | | | | | | | | | |
| **A** | 135.02 | 0 | 3.56 | 6.8 | 10.29 | 84.63 | 3 | 41.63 | 64.53 | 43.18 | 0.96 |
| **B** | -1.02 | 0 | 0.073 | -0.34 | -0.15 | -6.68 | 0.3 | -4.45 | 0.04 | -2.91 | 0.53 |
| **Predictions** | | | | | | | | | | | |
| **2020-21** | 117 | 0 | 5 | 1 | 8 | -36 | 8 | -38 | 65 | -9 | 11 |

**Section V- Conclusions and Limitations:**

The present study was focused on the large scale industrial units of Punjab. For the purpose, district wise spread of these industries from the year 2003-04 to 2013-14 has been examined. Further, trend equation has been used to predict the number of large scale industries in each of the district of Punjab by the year 2020-21. Following conclusions have been drawn from the analysis of the variables under study:

1. Results from the analysis showed that Ludhiana (128.91) recorded highest mean score during the period under study followed by S.A.S. Nagar (47.09), Patiala (44.55), Amritsar (27.09), Sangrur (25.73), Hoshiarpur (23.09), Jalandhar (20.09), Bathinda (15.45), Ropar (14.91), Fatehgarh Sahib (14.55), Gurdaspur (12.64), and Ferozepur (12.36).

2. A relative lower mean score has been registered in the units of Nawanshahr (9.36), Kapurthala (6.91), Barnala (6.88), Muktsar (4.73), Moga (4), and Tarn Taran (2.45) from 2003-03 to 2013-14, signifying existence of lesser number of units in these districts. During the same period, Pathankot (1.36) showed a lowest mean score in the number of units with Fazilka and Faridkot just a little more at 2 in terms of the number of district wise large scale units in Punjab.

3. Coefficient of variation (CV) is used to examine the variability in the number of units in different districts of Punjab over the period under study. CV regarding number of units in the large scale units of Punjab has been recorded highest in Fazilka (161.25 percent), Pathankot (140.19 per cent) followed by Roopnagar/Ropar (126.21 per cent), Tarn Taran(86.16 percent), Patiala (69.62 percent), S.A.S. Nagar (64.71per cent), Amritsar(57.95 percent), Ferozepur(48.97 percent), Sangrur(48.18 percent), Gurdaspur(39.45 percent), Moga(35.36 percent), Muktsar(31.51 percent), Fatehgarh Sahib(26.87 percent) and Kapurthala(26.26 percent).

4. Further, it has been observed that Barnala recorded lowest coefficient of variation (5.14 per cent), indicating less variability or more stability in the existence of units in this district than the districts where higher CV has been found, indicating more variability in data for existence of number of units over the respective period of time.

5. Study exhibited that when Fazilka became district in 2011, one unit was existed in the district, then the units were increased to 7 units in 2013-14 at highest CAGR of 79.27 percent. This came out to be significant with t-value of 1.73 at five percent level. The number of units in this district grew significantly as compared to the growth in the number of units in other districts of Punjab.

6. The calculation of compounded annual growth rate revealed that lowest growth rate with respect to number of large units has been witnessed in the Roopnagar/Ropar district where the number of units decreased from 49 units in 2003-04 to 4 units in 2013-14. Additionally, it has been seen that the number of units started declining constantly to 4 units only after the year 2005-06 and onwards and thus CAGR regarding the number of units was found to be insignificant (t-value= -3.73) at the rate of -23.14 percent compounded annually.

7. From the point of view of the trend equation, the number of units of Roopnagar, Ferozepur, Patiala, Sangrur, Gurdaspur and Amritsar, are expected to decline by the year 2020-21 respectively. On the other hand, the number of units in Fazilka, Pathankot, Jalandhar, Tarn Taran, Bathinda and Barnala districts shows that the numbers of units are expected to increase in these districts to 33 units, 8 units, 39 units, 11 units, 21 units and 7 units respectively.

8. It has been evident that even though industrial walk in the Fazilka district started in the year 2010 when it was declared as a district, but the number of units has increased in the district more in comparison to other districts and the pace is expected to persist and thus the number of units are expected to increase further by the year 2020-21.

**References**


- Ahluwalia, I.J. (1991). *Productivity and Growth in Indian Manufacturing*, Oxford University Press, New Delhi.
- Das, Panchanan. and Sengupta, Anindita. (2014). Structure and Growth Aspects of Large Scale Industries in West Bengal: Some Results with ASI Data. *The Journal of income and wealth*. Vol. 36, No.1, pp. 51-59.
- 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.
- Ministry of Agriculture & Farmers Welfare Department of Agriculture, Cooperation & Farmers Welfare Directorate of Economics & Statistics. (2016). *State of Indian Agriculture 2015–16*.
- Kaur, Manpreet., Kiran, Ravi., and Singh, Inderjeet. (2008). New policy regime and productivity of Indian manufacturing: a disaggregative analysis. *International Journal of Business and Emerging Markets,* Vol. 1, pp.151-170.
- Thomas, T. (1979). Relationship between Small-Scale and Large-Scale Industry A Different View. *Economic and Political Weekly*, Vol. 14, No. 9, pp. M29-M36. Retrieved from http://www.jstor.org/stable/4367390.


**Reports**


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