

Spatial Pattern of Industrial Concentration in Haryana

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ABSTRACT

Industrial concentration means the location of a few, well-defined industrial sectors in a region (Brakman, Garretsen, &Marrevijk, 2001). Industrial concentration plays an important role in the economic development of a region because it influences the economic opportunities available in the region. There are some factors like availability of specific resources, proximity to consumer markets, infrastructure facilities and location which influenced the industrial concentration in an area or region. The present study intends to analyse the industrial concentration in Haryana over the period 2011-12 to 2016-17. The pattern of industrial concentration has been examined by Location Quotient (LQ) method. The study found that there are disparities in the industrial concentration while the industrial sector is continuously increased in the state. After the analysis it reveals that the industrial concentration is high to moderate in the eastern and northern part of the state on the other hand it is low to very low in the western and southern most part of the state except Gurugram and Faridabad districts. There are changes occurred in the industrial concentration during the period 2011-12 to 2016-17 in the state. Jhajjar and Sonapat both districts has shift from moderate to high category of industrial concentration during the period. The reasons responsible for that are location factor, infrastructure facilities, included in NCR region.

1. Introduction

Industrial concentration means the location of a few, well-defined industrial sectors in a region (Brakman, Garretsen, &Marrevijk, 2001). Industrial concentration serves as a substitute for understanding a region's economic base. Industrial concentration plays an important role in the economic development of a region because it influences the economic opportunities available in the region. There are some factors like availability of specific resources, proximity to consumer markets, infrastructure facilities and location which influenced the industrial concentration in an area or region. High concentration of the industries indicates high productivity and low industrial concentration indicates low productivity in a region. Due this some regions are become economically developed and some are not. These variations in the industrial concentration lead to the imbalanced growth of an economy or area. In Haryana also there are disparities in the industrial concentration while the industrial sector is continuously increased in the state. That is why there is a need to study the industrial concentration in the state which may help the policy makers in reducing the inequalities and improve the economies of areas that are currently performing poorly economically. Industrial concentration measured by different methods but in the present research work Location Quotient (LQ) method has been used.

2. Objectives of the study

The present study is undertaken with the following objectives –

- To examine the spatial pattern of industrial concentration in Haryana.

- To find out the reasons that are responsible for the disparities in the spatial pattern of industrial concentration in Haryana.

3. Database and Methodology

Database

The present study is based on secondary data. The secondary data has been collected from statistical abstract of Haryana, various issues government of Haryana

Methodology

In the present study Location Quotient (LQ) method has been used for calculating the industrial concentration in the state. The data will be examined for the state at the level of districts. Location Quotient (LQ) is the ratio that provides a convenient way to examine the specialization of economic activity in a region. LQ can be based on distribution of industry employment in a region to that industry's distribution in a larger economy. LQs are easy to compute and interpret the data. The general procedure for calculating LQ values based on number of workers employed in registered working factories for all districts is given below:

Location Quotient (LQ) =

$$\frac{\text{Number of Industrial Workers of Specific District}}{\text{Number of Total Workers of Specific District}} \div \frac{\text{Number of State Total Industrial Workers}}{\text{Number of State Total Workers}}$$

The value of LQ indicates the following:

- **LQ less than 1.0** indicates that the industrial concentration in the district is less than the state.

- **LQ equal to 1.0** indicates that the industrial concentration in the district is equal to the state.
- **LQ greater than 1.0** indicates that the industrial concentration in the district is more than the state.

4. Spatial Analysis of Industrial Concentration in Haryana

Haryana is agriculturally developed stat. With the time being the state has become one of the economically prosperous states of the country. The growth rate of industry sector of the state continuously increased. As a result the share of industry sector in Gross State Domestic Production (GSDP) increased from 17.6 percent in 1969-70 to 32.1 percent in 2006-07. But this growth is not even in all the districts. To understand the regional disparity in the districts Location Quotient method has been applied by using the data-number of workers employed in registered working factories. The time period at which the analysis has been done is 2011 and 2016. For simplification, Location Quotient values have been classified in to five categories –

- (1) Areas having Very High level of Industrial Concentration (LQ 1.5 and above)
- (2) Areas having High level of Industrial Concentration (LQ 1.0 to 1.5)

- (3) Areas having Moderate level of Industrial Concentration (LQ 0.80 to 1.0)
- (4) Areas having Low level of Industrial Concentration (LQ 0.40 to 0.80)
- (5) Areas having Very Low level of Industrial Concentration (LQ Below 0.40)

Very High level of Industrial concentration (LQ 1.5 and above)

Very High level of industrial concentration has been found in Gurugram (5.27) and Faridabad (4.03) districts during the year 2011 in the state. The value of location Quotient is more than 1.0 in both districts (Fig. 1.1). It indicates that industrial concentration in both districts highly concentrated than the state. The reasons responsible for high concentration of industries are location factor near to national capital Delhi, also included in NCR, developed transportation network and technological development. Gurugram developed in IT sector and in Faridabad numbers of industries are distributed. It is observed from the figure 1.2 that during the year 2016 also both districts are fall under the category of high industrial concentration.

Table 1.1
Haryana: Industrial Concentration Based on Location Quotient

Level of Concentration	Range of LQ	2011		2016	
		No. of Districts	Name of Districts	No. of Districts	Name of Districts
Very High	1.5 and Above	2	Gurugram, Faridabad	2	Gurugram, Faridabad
High	1.0 to 1.5	2	Panipat, Yamunanagar	4	Panipat, Yamunanagar, Jhajjar, Sonipat,
Moderate	0.80 to 1.0	3	Jhajjar, Sonipat, Rewari	1	Rewari
Low	0.40 to 0.80	4	Panchkula, Karnal, Rohtak, Ambala	4	Karnal, Panchkula, Ambala, Rohtak,
Very Low	Below 0.40	10	Jind, Bhiwani, Hisar, Palwal, Sirsa, Mahendragarh, Kurukshetra, Fatehabad, Kaithal, Nuh	10	Mahendragarh, Jind, Bhiwani, Palwal, Hisar, Fatehabad, Kurukshetra, Sirsa, Kaithal, Nuh

Source: Compiled by researcher

Areas having High Level of Industrial Concentration (LQ 1.0 to 1.5)

It has been observed from the Figure 1.2 that High level of industrial concentration has been found in Panipat (1.39) and Yamunanagar (1.19) districts during the year 2011. The value of Location Quotient (LQ) is more than 1.0 in Panipat and Yamunanagar. It indicates that in both districts industrial concentration is more than the state. Because both districts have the locational advantage, Yamunanagar has the benefit of closeness to the state capital Chandigarh and Panipat

located near to national capital Delhi and also fall in National Capital Region. Due to this number of factories are located in both districts. After the analysis of Figure 1.1, 1.2 & Table 1.1 it has also been observed that Jhajjar and Sonipat both districts has shift from moderate to high category of industrial concentration during the period 2011 to 2016 in the state. Now both districts are included in this category. The reasons responsible for that are location factor, infrastructure facilities, included in NCR region.

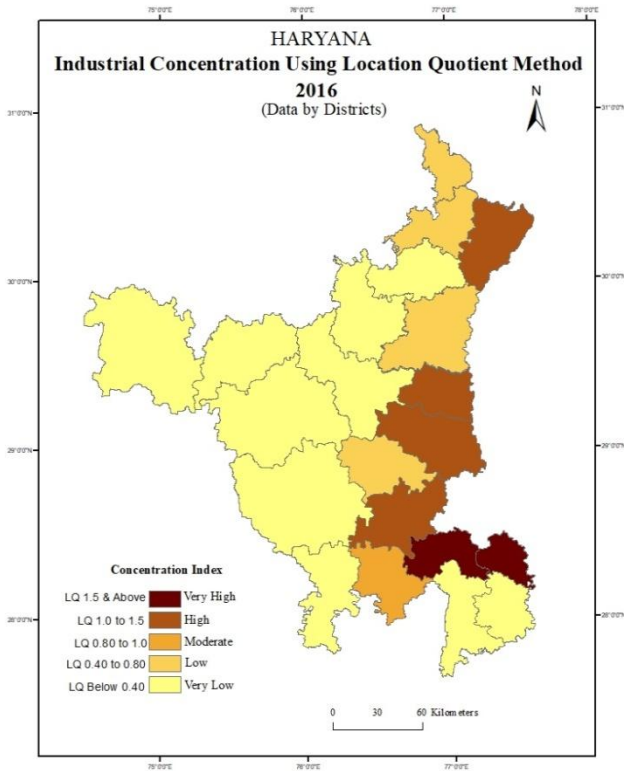


Fig. 1.1

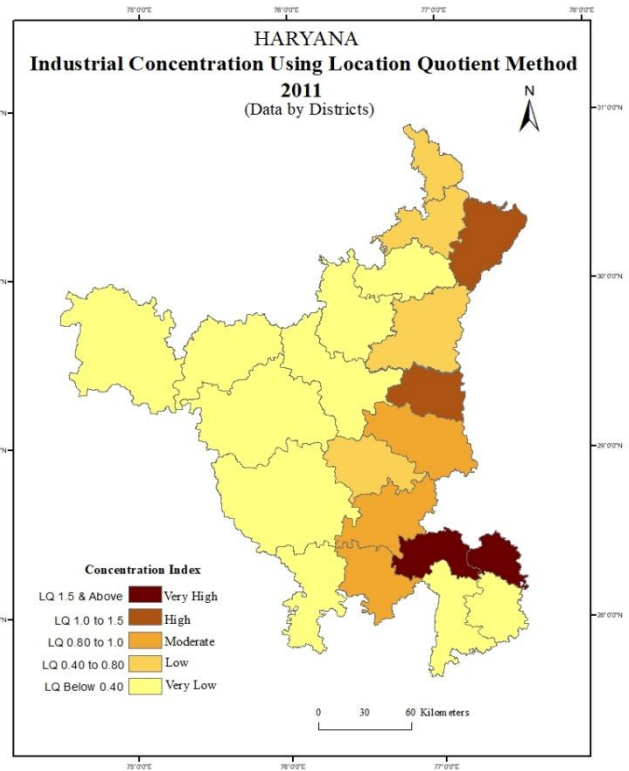


Fig. 1.2

Areas having Moderate Level of Industrial Concentration (LQ 0.80 to 1.0)

Moderate level of industrial concentration has been found in Jhajjar (0.90), Sonipat (0.89) and Rewari (0.88) districts during the year 2011 in the state. The value of Location Quotient (LQ) is less than 1.0 in these districts which indicate that in these districts the industrial concentration is less than the state. But the LQ value in these districts near to one which represent that the industrial concentration is quite better in these districts. All three districts are fall in National Capital Region due to this they acquire the advantage of different government policies regarding industrial development. Nearness of these districts to Delhi also affects their industrial concentration. Rewari district is located 82 km from the national capital Delhi, Jhajjar 29 km and Sonipat located just north to Delhi.

Kaithal	0.09	0.11
Sonipat	0.89	1.01
Rohtak	0.58	0.52
Jhajjar	0.90	1.06
Jind	0.28	0.28
Faridabad	4.03	3.79
Palwal	0.20	0.20
Gurugram	5.27	5.22
Nuh	0.01	0.08
Rewari	0.88	0.97
Mahendragarh	0.14	0.36
Bhiwani	0.26	0.25
Hisar	0.22	0.17
Fatehabad	0.12	0.15
Sirsa	0.17	0.12

Source: Compiled by researcher

It has observed from the Table 1 that during the year 2016 only Rewari district is lie in this category. Rests of the districts are shift from this category to high category of industrial concentration during the period 2011 to 2016.

Areas having Low Level of Industrial Concentration (LQ 0.40 to 0.80)

Low level of industrial concentration has been found in Panchkula (0.66), Karnal (0.64), Rohtak (0.58) and Ambala (0.46) districts during the year 2011 in the state. The value of LQ is less than 1.0 in these districts which indicate that in these districts the industrial concentration is less than the state. As comparison to other districts Panchkula is in better position, because it is a part of Chandigarh capital region. This locational advantage gives the boost to the industrial development of the district. As a result number of small scale industries is located in the district. Rests of the districts are agriculturally developed. Due to this some ago-based and small scale industries are situated in rest of the districts.

It has been analysed from the Table 1.1 that during the period 2011 to 2016 there are not any changes ensued, in

Table 1.1
Haryana: Industrial Concentration, 2011 and 2016
(Based on Location Quotient)

Districts	Location Quotient	
	2011	2016
Ambala	0.46	0.57
Panchkula	0.66	0.64
Yamunanagar	1.19	1.07
Kurukshetra	0.13	0.14
Karnal	0.64	0.69
Panipat	1.39	1.33

other words, same districts lie in this category in 2016 as in 2011.

Areas having Very Low Level of Industrial Concentration (LQ Below 0.40)

It has been observed from the Figure 1.1 that ten districts are included in this category Jind (0.28), Bhiwani (0.26), Hisar (0.22), Palwal (0.20), Sirsa (0.17), Mahendragarh (0.14), Kurukshetra (0.13), Fatehabad (0.12), Kaithal (0.09) and Nuh (0.01). The value of LQ is less than 1.0 in these districts which indicate that in these districts the industrial concentration is less than the state. The reasons which are responsible for the very low industrial concentration are, in these districts the number of registered working factories and density of large and medium scale industries is low. But these districts are rich in agricultural production. Mainly Jind, Kaithal and Kurukshetra are the main districts which are agriculturally developed. That is why these districts are able to provide a good base for agro-based and allied industries. In the rest of the districts also small scale and agro-based industries are located. In Bhiwani district high number of small scale industries per lakh population located.

It has analysed from the Figure 1.1 & 1.2 and Table 1.1 that during the period 2011 to 2016 there are not any changes arisen, in other words, same districts lie in this category in 2016 as in 2011.

References

1. Statistical Abstract of Haryana (2016). Department of Economic and Statistical Analysis.
2. Industrial Concentration (2015). Missouri Economic Research and Information Center.
3. State Industrial Profile of Haryana (2015-16), Karnal: Ministry of MSME (Micro, Small and Medium Enterprises).
4. Statistical Abstract of Haryana (2011). Department of Economic and Statistical Analysis.
5. Phelan, J.J. (2014). Does Industry Concentration Matters?. *Journal of Economics and Economic Education Research*. 15(1), 31-47.
6. Scherer, F. M., (1979). The Causes and Consequences of Rising Industrial Concentration. *Journal of Law and Economics*. 22(1), 209-211.

5. Conclusion

Haryana has been facing disparities in the industrial concentration during the period 2011-12 and 2016-17. Very high level of industrial concentration has been found in Gurugram (5.27) and Faridabad (4.03). High level of industrial concentration found in Panipat (1.39) and Yamunanagar (1.19) districts during the year 2011. The value of Location Quotient (LQ) is more than 1.0 in these districts, which indicate that in these districts the industrial concentration is more than the state. On the other hand moderate level of industrial concentration has been found in Jhajjar (0.90), Sonipat (0.89), Rewari (0.88) districts and rest of the districts show low to very low level of industrial concentration. The value of Location Quotient (LQ) is less than 1.0 in these districts which indicate that in these districts the industrial concentration is less than the state. After the analysis it reveals that the industrial concentration is high to moderate in the eastern and northern part of the state. But the industrial concentration is low to very low in the western and southern most part of the state except Gurugram and Faridabad districts.

There are changes occurred in the industrial concentration during the period 2011 and 2016 in the state. Jhajjar and Sonipat both districts has shift from moderate to high category of industrial concentration during the period. The reasons responsible for that are location factor, infrastructure facilities, included in NCR region.