



A COMPARATIVE STUDY WITH GUJARAT AND INDIA IN TERMS OF TOTAL NUMBER OF FACTORIES

H. P. Solanki

**Ph.d. Student, Economics Department,
School of Social Science, Gujarat University, Ahmedabad.**

PURPOSE:

To check the status of Gujarat in India in terms of number of factories

Hypothesis:

Interpretation:

H0: The number of factories in Gujarat and India does not differ

H1: The number of factories varies in Gujarat and India

Duration of study:

The duration of the study here is from 1999-2000 to 2016-17. That is, the duration of the study is kept at 18 years.

GUJARAT'S PLACE IN THE INDUSTRIAL SECTOR OF INDIA

Gujarat is one of the leading industrial states of the country with 5% of the population and 6% of the geographical area. At the current price, the state has provided exemplary leadership in industrial production, contributing as much as 16.8% (SER-2018-19, Page ix) to the country's industrial production.

With more than 42% of Gujarat's population (SER-2018-19, Page 119), the country is the most urbanized state in the country. Which has a positive impact on the development of the state's industries. Gujarat is recognized as a separate industrial state in the industrialized states and has made a significant contribution to India's exports of goods. Gujarat's labor force is skilled in the fields of diamond industry, chemicals, petrochemicals and pharma as required. Public sector and private companies have set up large refineries and have named Gujarat as petroleum capital in India. Gujarat is established as the "Textile State of India" with a share of 12% (SER-2018-19, Page xi) of the country's total exports.

During April-2000 to March-2019, Gujarat accumulated FDI of as much as 20.54 billion US dollars. (Foreign Direct Investment). The government is modernizing the urban infrastructure which we can see as an industrial state of Gujarat through various projects like smartcity project, nectar project, metrorail project etc.

Vibrant Gujarat Summit is organized every two years to promote industrial development and attract capital investment for the state of Gujarat. Developed countries like the US, Japan and many developing countries are participating.



Table No.01: 10 Important States of India in terms of Factory Number (2016-17)

No	Name of State	No. of Factory
1	Tamil Nadu	37220
2	Maharashtra	27010
3	Gujarat	25966
4	Andhra Pradesh	16246
5	Uttar Pradesh	15294
6	Telangana	15028
7	Karnataka	13344
8	Punjab	12489
9	West Bengal	9587
10	Rajasthan	9026

Source: Annual Survey of Industries - 2016-17

The table of the top 10 states of India in terms of number of factories in Table No.01 above is given on the basis of annual survey of industry factories in the year 2016-17. Here comes the first Tamil Nadu, the second Maharashtra and the third place Gujarat which reflects the development of its manufacturing sector. Thus Gujarat is a leading state in terms of industrial development as compared to other states of India. Also we see that the factory is third in number. Thus, the manufacturing sector of Gujarat also has another place in the manufacturing sector. Which we will see in the next study.

For this bright picture of Gujarat, the number of factories is responsible for many factors, including the industrial policies of the government, the number and skill of the workers, entrepreneurs, geographical area etc. Here we have studied only the number of factories in Gujarat in relation to the number of factories in India.

Table No.02: Number of factories in India and Gujarat

Year	No. of Factory						
	No of Factory		% Of Gujarat in India	% Change in reference to last year		% Change in terms of year 1999-00	
	Gujarat	India		Gujarat	India	Gujarat	India
1999-00	14710	131558	11.18				
2000-01	14090	131268	10.73	-4.21	-0.22	-4.21	-0.22
2001-02	13950	128549	10.85	-0.99	-2.07	-5.17	-2.29
2002-03	13180	127957	10.30	-5.52	-0.46	-10.40	-2.74
2003-04	12795	129074	9.91	-2.92	0.87	-13.02	-1.89
2004-05	13603	136353	9.98	6.31	5.64	-7.53	3.64
2005-06	14055	140160	10.03	3.32	2.79	-4.45	6.54
2006-07	14327	144710	9.90	1.94	3.25	-2.60	10.00
2007-08	15107	146385	10.32	5.44	1.16	2.70	11.27
2008-09	14863	155321	9.57	-1.62	6.10	1.04	18.06
2009-10	15576	158877	9.80	4.80	2.29	5.89	20.77
2010-11	21282	211660	10.05	36.63	33.22	44.68	60.89
2011-12	22220	217554	10.21	4.41	2.78	51.05	65.37
2012-13	22587	222120	10.17	1.65	2.10	53.55	68.84

2013-14	22876	224576	10.19	1.28	1.11	55.51	70.70
2014-15	23433	230435	10.17	2.43	2.61	59.30	75.16
2015-16	24426	233116	10.48	4.24	1.16	66.05	77.20
2016-17	25966	234865	11.06	6.30	0.75	76.52	78.53

Source: Annual Survey of Industries - 2001-02, 2004-05, 2007-08, 2010-11, 2013-14, 2016-17

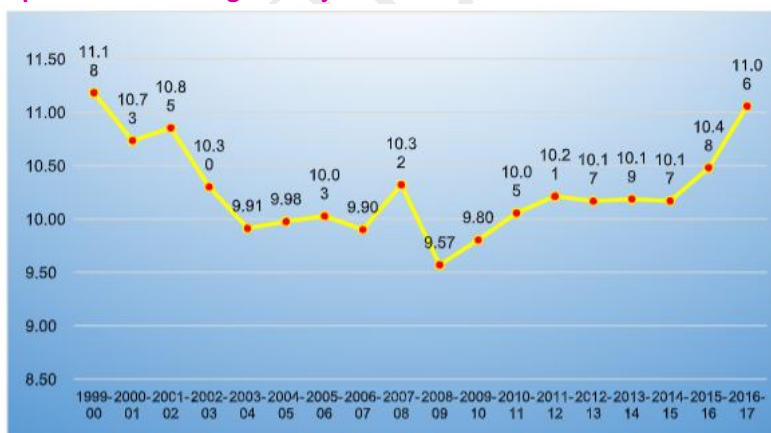
As seen in Table No.02, the number of factories in Gujarat is constantly decreasing from 1999-2000 to 2003-2004. Excluding the recessionary 2008 year, the number of factories is constantly increasing. The number of factories increased relative to the previous year due to the industrial policy of 2009 (validation of SIR, implementation of PPP model): 2010-11 saw the largest increase with 36.63%.

Table No.03: Number of Factories in India and Gujarat - Statistics

Area	Mean	Median	Standard Deviation	Sample Variance	Range	Minimum	Maximum
Gujarat	17724.78	14985	4675.425	26.38	13171	12795	25966
India	172474.3	150853	44140.78	25.59	106908	127957	234865

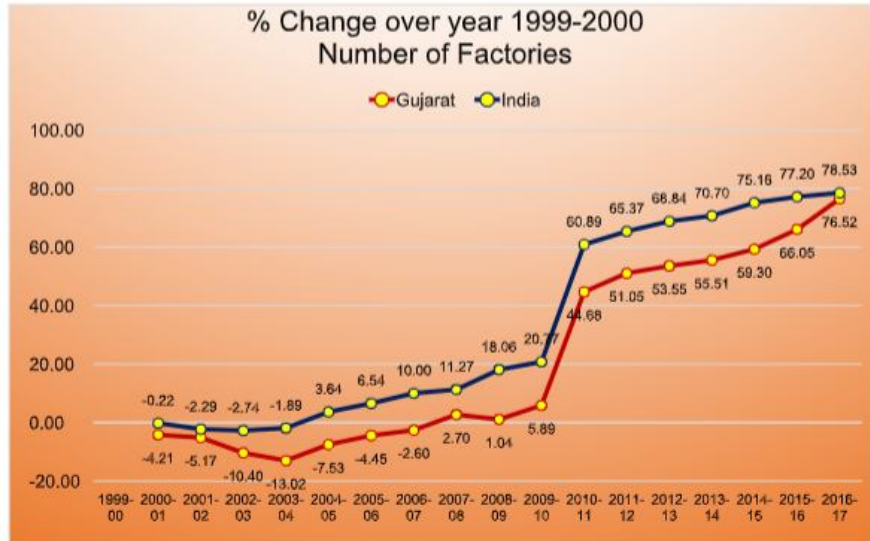
In Table No.03, the number of factories in Gujarat is at least 12795 and maximum is 25966 views. While the number of factories for India is at least 127957 and maximum is 234865, the diversification coefficient is better in India than in Gujarat, which means that the number of factories in India is lower than in Gujarat.

Map No.01: Percentage of Gujarat's share in India - Number of factories



As shown in Map No.01, Gujarat's share in the number of factories in India was not less than 9.57% and the maximum was 11.18%.

Map No.02: Changes (% in the previous year) regarding the number of factories.



Looking at the map no.02, it is understood that in the year 2010-11, the number of factories in both Gujarat (36.63%) and India (33.22%) has increased remarkably.

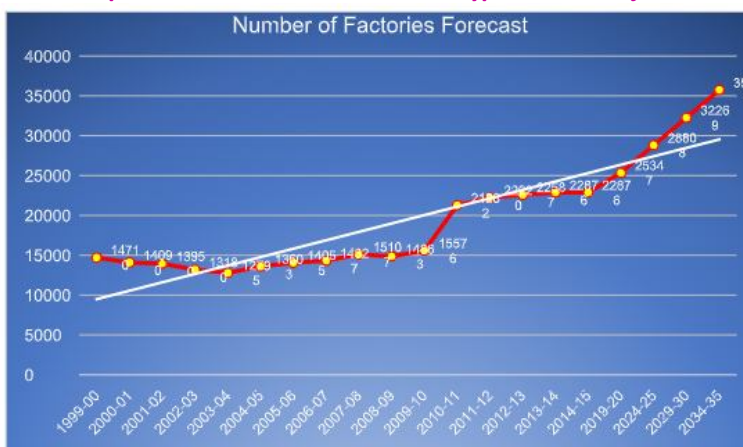
Hypothesis

Table No.04: Factories hypothesis

Year	No of Factory			
	Gujarat	% Change in reference to last 5 years	India	% Change in reference to last 5 years
2014-15	22876	•	224576	-
2019-20	25347	10.80	258356	15.04
2024-25	28808	12.01	296028	14.58
2029-30	32269	10.73	333700	11.29
2034-35	35730	9.69	371373	10.14

Table No.04 predicts the number of factories for Gujarat and India in the coming period. Year in Gujarat: In 2024-25, the number of factories will increase while the number of factories in India seems to be decreasing; the effect of one or more factors may change if the prediction is changed. Attempts have been made to map the prediction on the map. Which can be seen in map no.03.

Map No.03: Number of Factories Hypothesis - Gujarat



Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
Gujarat	18	319046	17724.78	21859601
India	18	3104538	172474.3	1.95E+09

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	2.16E+11	1	2.16E+11	218.7792	2.24E-16	4.130018
Within Groups	3.35E+10	34	9.85E+08			
Total	2.49E+11	35				

INTERPRETATION

H0= There is no significant difference in number of factories between Gujarat and India

H1= There is significant difference in number of factories between Gujarat and India

From above table for 1 and 34 degree of freedom.

Fcal is 218.7792 and Ftab is 4.13.

Thus, Fcal>Ftab and p-value is less than specified α of 0.05.

So, null hypothesis is rejected and it is concluded that the difference is seen in number of factories between Gujarat and India.

FINDINGS:

- (1) During 1999-00 to 2003-04, the number of factories in Gujarat was constantly decreasing. But then (excluding the 2008 recession), the number of factories in Gujarat is constantly increasing. An important factor for which can be considered the industry promotion policy of the Government of Gujarat.

- (2) The number of factories in Gujarat is constantly fluctuating in the total number of factories in India. Here the number of factories in Gujarat and India is changing in the same direction except for the year 2003-04 (increase is seen in both increase and decrease in both). That is, this fluctuation in the number of factories is observed due to the change in the number of factories in states other than Gujarat.
- (3) The lowest number of factories in Gujarat was 12795 in the year 2003-04. And the highest year: in 2016-17 was 25966. Thus, the number of factories in Gujarat has increased by 76.52% over a period of 18 years.
- (4) Year: In 2010-11, the number of factories in Gujarat and India has increased by 36.63% and 33.22% respectively over the previous year. The reason for this increase can be attributed to the 2008 industrial policy for India (abolition of licenses and liberalization of tariffs) and the 2009 industrial policy for Gujarat (recognition of SIR, implementation of PPP model).
- (5) Based on the ANOVA test, it is found that the number of factories in Gujarat and India is different. On the basis of the co-efficient of variance, it can be said that the number of factories in Gujarat is changing as the number of factories in India changes. Which is not a good thing for Gujarat.

SUGGESTION:

(1) According to year 2010-11, to increase number of factory in Gujarat with increasing rate Gujarat government has to apply simple and encouraging industrial policy

BIBLIOGRAPHY

- (1) Socio-Economic Review, State of Gujarat-2017-18
- (2) Socio-Economic Review, State of Gujarat-2018-19
- (3) Annual Survey of Industries - 2001-02, 2004-05, 2007-08, 2010-11, 2013-14, 2016-17

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