



Growth dynamics and employment elasticity of small scale industries: Evidence from Anantnag District of Jammu and Kashmir

Dr. Ajaz Ahmad Ganaie¹, Dr. Mandeep Kaur²

¹ Assistant Professor, Economics, Department of Agriculture, Guru Nanak Dev University, Amritsar, Punjab, India

² Assistant Professor, Economics, Guru Nanak Dev University College, Ladowali, Jalandhar, Punjab, India

Abstract

This study examines the growth performance and employment responsiveness of small-scale industries in Anantnag district of Jammu and Kashmir over the period 2005-06 to 2020-21. Using secondary data, the study employs growth analysis and employment elasticity to evaluate the relationship between industrial expansion and employment generation. The findings indicate a steady increase in the number of small-scale industrial units, reflecting stable industrial growth, while employment growth remains comparatively slower and uneven, suggesting that industrial expansion has not translated proportionately into job creation. The estimated employment elasticity remains close to unity during the normal period, reflecting a balanced relationship between growth and employment. Nevertheless, significant fluctuations observed in recent years indicate the presence of structural disruptions affecting employment generation. The study concludes that while the small-scale industrial sector has contributed to industrial development in the district, its employment-generating capacity remains moderate and requires policy support for improvement.

Keywords: Small-Scale industries, growth dynamics, employment elasticity, Anantnag

Introduction

Small Scale Industries (hereafter abbreviated as SSI) constitute a vital segment of the industrial structure in developing economies like India, owing to their significant contribution to employment generation, industrial output, and regional development. The sector plays an important role in promoting decentralized industrialization and reducing regional imbalances by utilizing local resources and skills (MSME, 2022) ^[6]. Due to their relatively low capital requirements and high labour absorption capacity, SSI are widely regarded as an effective instrument for inclusive and sustainable economic growth (ILO, 2015) ^[5]. Empirical evidence further highlights that the SSI sector contributes substantially to industrial production, exports, and employment generation in the Indian economy (Hussain, 2004) ^[4]. In addition to its economic significance, the SSI sector plays a crucial role in fostering balanced regional development, particularly in geographically constrained and less industrialized regions. In the context of Jammu and Kashmir (hereafter abbreviated as J&K), the importance of SSI is even more pronounced, as the sector provides livelihood opportunities and supports economic stability in a region characterized by structural and developmental challenges. Anantnag district, being one of the economically significant districts of J&K, has witnessed a gradual expansion of its SSI base over time. While the increasing number of industrial units reflects structural growth and industrial development, it is equally important to examine whether this expansion has resulted in proportionate employment generation.

The relationship between industrial growth and employment generation has been a subject of considerable debate in the literature. Although an increase in the number of industrial units generally signifies economic progress, it does not necessarily ensure a corresponding rise in employment opportunities. Studies have shown that technological advancements, efficiency improvements, and structural

adjustments may reduce the labour absorption capacity of SSI, thereby weakening the link between industrial expansion and employment generation (Subrahmanya, 2005) ^[8]. This divergence underscores the importance of analyzing employment elasticity, which measures the responsiveness of employment to changes in industrial growth. Furthermore, in the era of globalization and economic liberalization, SSI face increasing competitive pressures that require continuous adaptation and efficiency enhancement. The sustainability and competitiveness of the SSI sector depend on factors such as technological adoption, innovation, cost efficiency, and effective management practices (Singh et al., 2010) ^[7]. At the same time, the sector continues to contribute to inclusive growth by generating employment and supporting local economies, particularly in rural and semi-urban areas (Banik, 2018) ^[1]. Despite the recognized importance of SSI, limited empirical studies have examined the relationship between industrial growth and employment generation at the district level, particularly in regions like J&K. A recent longitudinal study conducted in Pulwama district also highlighted the significant contribution of SSI growth towards employment generation and regional industrial development (Ganaie et al., 2024) ^[3]. Against this backdrop, the present study examines the growth dynamics and employment responsiveness of the SSI sector in Anantnag district over the period 2005-06 to 2020-21. The study employs growth analysis and employment elasticity to analyze the relationship between industrial expansion and employment generation. By integrating these approaches, the study aims to provide a comprehensive understanding of the sector's performance and contribute to the existing literature on regional industrial development. It also seeks to offer policy-relevant insights for enhancing the employment-generating capacity and stability of SSI in the region. In light of the above discussion, the present study is guided by the following objectives.

Objectives of the Study

- To examine the growth pattern of SSI in Anantnag district in terms of number of units and employment generation.
- To analyze the employment responsiveness of industrial growth using employment elasticity.

Database and Methodology

1. Database

The present study is based on secondary data relating to the performance of SSI in Anantnag district of J&K. The data covers the period from 2005-06 to 2020-21 and includes information on the number of units and employment generated in the sector. The data has been compiled from Digest of Statistics 2020-21 ^[2], Directorate of Economics and Statistics, Government of J&K. The dataset is used to examine the growth pattern and employment generation of the SSI sector in the study area. For comparative analysis, state-level data (J&K) has also been used to compute the share of Anantnag district in total units and employment.

2. Methodology

The study adopts a quantitative and analytical approach to examine the growth and performance of the SSI sector. Various statistical and econometric techniques have been employed to analyze the data.

2.1 Growth Analysis

The annual growth rate has been calculated to measure year-to-year changes in the variables using the formula:

$$\text{Growth Rate} = \frac{X_t - X_{t-1}}{X_{t-1}} \times 100$$

Where:

- X_t = current year value
- X_{t-1} = previous year value.

2.2 Employment Elasticity

Employment elasticity has been estimated to examine the responsiveness of employment generation to changes in SSI units. It is calculated using the following formula:

$$\text{Employment Elasticity} = \frac{\% \Delta E}{\% \Delta U}$$

Where:

- $\% \Delta E$ = Percentage change in employment
- $\% \Delta U$ = Percentage change in SSI units

Results & Discussion

This section presents the empirical results relating to the growth performance and employment dynamics of SSI in Anantnag district.

1. Contribution of Anantnag to J&K SSI Sector

Table 1 presents the year-wise share of Anantnag district in total SSI units and employment in J&K during 2005-06 to 2020-21. The data reveals that Anantnag has maintained a consistent contribution to the overall industrial structure of the J&K, though with noticeable variations in recent years. In terms of the number of units, Anantnag's share in J&K shows a gradual increase over time. It rose from 7.92 percent in 2005-06 to 8.40 percent in 2014-15, indicating a steady improvement in the district's industrial base. During this period, the number of units in Anantnag increased from 3817 to 4853, while the total units in J&K also grew from 48,224 to 57,788, suggesting that Anantnag's growth was in line with the overall expansion of the sector. The share remained relatively stable around 8 percent up to 2017-18 (8.33%), reflecting a consistent contribution to the state's industrial development. However, a significant structural shift is observed after 2017-18. The share of Anantnag in total units increased sharply to 14.63 percent in 2018-19, further rising to 15.37 percent in 2020-21, despite the total number of units in J&K declining from 59,899 in 2017-18 to 32,726 in 2020-21. This highlights that the rise in share is not due to a rapid increase in Anantnag's units alone (which increased modestly from 4990 to 5031), but rather due to a substantial decline in the total number of units in J&K. Hence, the increase in percentage share during this period reflects a relative improvement rather than an absolute expansion.

A similar pattern is observed in employment generation. The share of Anantnag in total employment in J&K remained relatively stable between 7.67 percent in 2005-06 and 7.19 percent in 2017-18, with employment in the district increasing steadily from 16,809 to 21,233 persons. This reflects that employment growth in Anantnag was proportionate to the overall growth in the state. However, a sharp increase is seen in 2018-19 (14.14%) and 2019-20 (14.55%), followed by a decline to 10.90 percent in 2020-21. During this period, employment in Anantnag rose significantly to 29,547 in 2018-19, while total employment in J&K declined from 295,348 in 2017-18 to 178,579 in 2020-21, again indicating that the rise in share is largely due to a contraction in the state-level totals. Overall, the table indicates that Anantnag district has maintained a stable and consistent share (around 7-8%) in both units and employment for a major part of the study period. The sudden increase in share observed in recent years reflects structural changes or external shocks affecting the overall industrial sector of J&K, rather than a proportionate surge in the district's industrial performance. Thus, while the district's contribution appears to have improved in relative terms, the underlying trend suggests the need for cautious interpretation of these changes.

Table 1: Share of Anantnag District in SSI Units and Employment in J&K (2005-06 to 2020-21)

Sr. No	Year	Number of Units		Share of Anantnag in J&K (%)	Employment (Number of Persons)		Share of Anantnag in J&K (%)
		J&K	Anantnag		J&K	Anantnag	
1	2005-06	48224	3817	7.92	219127	16809	7.67
2	2006-07	51077	3942	7.72	224312	17178	7.66
3	2007-08	50470	4003	7.93	232915	17409	7.47
4	2008-09	51441	4078	7.93	238281	17752	7.45
5	2009-10	52629	4200	7.98	245774	18272	7.43

6	2010-11	53544	4312	8.05	251251	18723	7.45
7	2011-12	54714	4452	8.14	260393	19316	7.42
8	2012-13	55742	4560	8.18	267194	19871	7.44
9	2013-14	56660	4688	8.27	274011	20314	7.41
10	2014-15	57788	4853	8.40	276680	20473	7.40
11	2015-16	58596	4912	8.38	283105	20771	7.34
12	2016-17	59223	4940	8.34	288524	20959	7.26
13	2017-18	59899	4990	8.33	295348	21233	7.19
14	2018-19	33845	4953	14.63	208977	29547	14.14
15	2019-20	32766	4971	15.17	204062	29685	14.55
16	2020-21	32726	5031	15.37	178579	19462	10.90
Total		809344	72702	8.98	3948533	327774	8.30

Source: Author's calculations based on data from Digest of Statistics 2020-21^[2], Directorate of Economics and Statistics, Government of Jammu and Kashmir.

2. Growth Performance, Employment Pattern and Employment Elasticity of SSI in Anantnag District

2.1 Growth Pattern of Industrial Units

The growth pattern of industrial units in Anantnag district exhibits a steady and consistent upward trend throughout the study period, which is broadly consistent with the findings reported for Pulwama district by Ganaie et al. (2024)^[3]. The number of units increased from 3,817 in 2005-06 to 5,031 in 2020-21, indicating gradual expansion of the industrial base. The year-on-year growth rates remain moderate, generally ranging between 1 to 3 percent, with only minor fluctuations. This pattern reflects a stable industrial development process, suggesting that the growth of SSI in the district has been sustained rather than sporadic. The absence of sharp declines or extreme volatility further indicates that industrial expansion has remained relatively resilient to short-term disturbances. This stable growth provides a foundation for examining whether employment generation has followed a similar trend.

2.2 Employment Growth Pattern

While the number of industrial units shows steady growth, the pattern of employment generation presents a contrasting trend. Similar fluctuations in employment growth were also observed in the Pulwama study conducted by Ganaie et al. (2024)^[3]. Employment in SSI increased from 16,809 in 2005-06 to 19,462 in 2020-21, indicating an overall upward trend. However, compared to the growth of industrial units, employment growth is slower and more uneven. Although employment increased consistently during the initial years, significant fluctuations are observed in the later period. In particular, employment rises sharply during 2018-19 and

2019-20, followed by a notable decline in 2020-21. This irregular pattern suggests that employment generation is more sensitive to external factors and less stable than the expansion of industrial units. The divergence between the growth of units and employment indicates that industrial expansion is not fully translating into proportional job creation. Given the divergence between industrial growth and employment generation, it becomes necessary to examine the responsiveness of employment through employment elasticity.

2.3 Employment Elasticity of Industrial Growth

To further understand the divergence between industrial growth and employment generation, employment elasticity has been estimated. The results reveal that during the normal period (2006-07 to 2017-18), elasticity values largely range between 0.7 and 1.3, indicating a moderate and proportionate relationship between the growth of industrial units and employment. An elasticity value close to unity suggests that a one percent increase in industrial units leads to a nearly equivalent increase in employment, reflecting a balanced growth pattern. However, certain years exhibit abnormal elasticity values. In 2018-19, elasticity becomes extremely high and negative due to a slight decline in units accompanied by a sharp increase in employment, while in 2020-21, elasticity is negative due to a rise in units but a significant fall in employment. These extreme values indicate structural disruptions or external shocks rather than normal economic behaviour, and therefore should be interpreted with caution. The above findings provide the basis for drawing conclusions and suggesting policy implications.

Table 2: Growth Performance and Employment Elasticity of SSI in Anantnag District

Sr. No	Year	Units (In Numbers)	Employment (Number of Persons)	Growth Units (%)	Growth Employment (%)	Elasticity
1	2005-06	3817	16809	-	-	-
2	2006-07	3942	17178	3.28	2.20	0.67
3	2007-08	4003	17409	1.55	1.35	0.87
4	2008-09	4078	17752	1.87	1.97	1.05
5	2009-10	4200	18272	2.99	2.93	0.98
6	2010-11	4312	18723	2.67	2.47	0.93
7	2011-12	4452	19316	3.25	3.17	0.98
8	2012-13	4560	19871	2.43	2.87	1.18
9	2013-14	4688	20314	2.81	2.23	0.79
10	2014-15	4853	20473	3.52	0.78	0.22
11	2015-16	4912	20771	1.22	1.46	1.20
12	2016-17	4940	20959	0.57	0.91	1.60

13	2017-18	4990	21233	1.01	1.31	1.30
14	2018-19	4953	29547	-0.74	39.15	-52.9
15	2019-20	4971	29685	0.36	0.47	1.31
16	2020-21	5031	19462	1.21	-34.43	-28.46

Source: Author’s calculations based on data from Digest of Statistics 2020-21 ^[2], Directorate of Economics and Statistics, Government of Jammu and Kashmir.

Conclusion and Policy Implications

The study concludes that SSI in Anantnag district have experienced steady growth in terms of the number of units, reflecting a stable expansion of the industrial base over the study period. However, employment generation has not kept pace with this growth, indicating a divergence between industrial expansion and job creation. The employment elasticity results suggest that, under normal conditions, industrial growth leads to proportionate employment generation, but recent fluctuations highlight the presence of structural disruptions and external shocks affecting the sector. These findings highlight the need for targeted policy interventions to enhance the employment-generating capacity of SSI. In particular, there is a need to promote labour-intensive industrial activities, strengthen skill development initiatives, and improve access to finance and institutional support. Additionally, efforts should be made to develop a resilient industrial ecosystem through better infrastructure, diversification, and market linkages, so that industrial growth becomes more inclusive, stable, and employment-oriented.

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