

Efficiencies of Manufacturing Factories in Uttarakhand: An Analysis

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ABSTRACT

Registered manufacturing has come to play an important role in Uttarakhand's economy both in terms of its size and growth. It grew at 33.7% per annum between 2004-05 and 2009-10 and contributes 23.3% of the SGDP. Manufacturing investments in the state were catalyzed by the Concessional Industrial Package of Government of India. The package which came in January 2003 granted various fiscal incentives to units setting up operations in Uttarakhand.

There is an apprehension in many quarters that once the units have availed of the fiscal benefits would they continue their operations in the state. An important aspect in this decision making would be the manufacturing efficiencies and profitability. This paper concludes that the manufacturing efficiencies of factories in the State are much higher than the all India averages. Not only this, they have improved significantly over the period under consideration, while at an all India level the efficiencies have stagnated.

Higher efficiencies have lead to a healthy profitability. In light of this, given the right kind of infrastructure and policy environment, manufacturing will continue to play an important role in the State's economy.

Key words: *Manufacturing, Uttarakhand, Efficiency*

Introduction

Uttarakhand, the 27th State in the country, has made rapid progress since its inception on 9 November 2000. The state's economy grew at 12.9% much higher than the rate of growth of Indian economy at 8.6% during the period 2004-05 to 2010-11.

Manufacturing has emerged as a leading sector, growing at Compounded Annual Growth Rate, CAGR, of 27.5% in the state, over 2004-05 to 2010-11. As against this all India growth was only 9.5%. Within manufacturing, registered manufacturing grew at a phenomenal pace clocking a CAGR of 33.7%. As a result of this rapid growth, the share of manufacturing in the State Gross Domestic Product (SGDP) increased from 12.7% to almost double at 23.3%. The share of manufacturing in the national GDP on the other hand stagnated over this period. Corresponding all India figures were 15.3% and 15.9%, respectively. Clearly the registered manufacturing has come to play an important role in the state's economy both in terms of growth and its size (contribution to the state GDP).

This paper benchmarks the Efficiency and performance of registered manufacturing in the State as captured by the Annual Survey of Industries, with that at an all India level. Comparison has also been made with Himachal Pradesh, as both Uttarakhand and Himachal Pradesh were recipients of the Government of India's Concessional Industrial Package of 2003, which aimed to catalyze manufacturing in these hilly States.

Efficiency is important for reasons of competitiveness, long term sustainability and profitability. Greater efficiency means, cost competitiveness. This enables units do better than their competitors in terms of acquiring market and profitability. This in turn determines the long term sustainability.

The paper is based on data from Annual Survey of Industries for respective years. A brief note on Annual Survey of Industries, and definitions of terms used in this paper are given in the Annexure.

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2. Analysis of Data

2.1 Number of Factories

The number of factories in Uttarakhand grew from 752 in 2004-05 to 1,907 in 2008-09, a CAGR of 26.2%. In Himachal Pradesh, the number of factories grew from 653 to 1,294 in the same period, a CAGR of 18.6%. The corresponding all India growth was only 3.3%, from 1,36,353 factories to 1,55,321 factories. As a result of the rapid growth in Uttarakhand, the all India share of the state in terms of number of factories, doubled from 0.6% in 2004-05 to 1.2% in 2008-09. Himachal Pradesh accounts for only 0.8% of all registered factories in the country. Thus Uttarakhand has managed to attract more number of units as compared to Himachal Pradesh and the CAGR in

number of units in the State has been much higher than the growth for Himachal Pradesh and the all India growth.

2.2 Average Size of Factories

Fixed capital per factory, number of people engaged per factory, and output per factory have been used as measures of size of the factory. These ratios measure size in terms of capital, employment and output, respectively.

In terms of fixed capital the average size of factories in Uttarakhand is smaller than that in Himachal Pradesh. However the factories in Uttarakhand on an average employ greater number of people and the output per factory is also higher.

Table 1: Average Size of Factories

Per Factory	Uttarakhand		Himachal Pradesh		All India	
	2004-05	2008-09	2004-05	2008-09	2004-05	2008-09
Fixed Capital (Rs mln)	38.26	114.83	91.08	169.18	37.63	67.99
Number of people engaged	68.8	120.5	67.8	85.2	62.0	72.9
Output (Rs mln)	133.96	434.84	140.49	326.73	122.66	210.71

Source: Calculated from ASI 2004-05 & ASI 2008-09

In 2004-05, the average size of factories in Uttarakhand was similar to the all India average, but has subsequently grown very rapidly. The average size now, is much larger than the all India average. On an average, a factory in the state employs higher fixed capital, provides employment to larger number of people and produces larger output, as compared to all India average.

2.3 Production Efficiency

The output-input ratio, measuring output per unit of input and the Net Value Added (NVA) per unit of output measuring the production efficiency in terms of the value addition, have been used to capture production efficiency.

It would be noted from Table 2 that for 2008-09, the ratios for Uttarakhand are slightly higher than that of Himachal Pradesh. However the improvement in ratios over the period under consideration has been much greater for Uttarakhand than for Himachal Pradesh. As compared to all India, production efficiency for the state is much higher, in terms of both output per unit of input and value addition per unit of output. While the state's efficiency has improved substantially, especially in terms of value addition, the production efficiency at all India level has remained more or less static.

Table 2: Production Efficiency

	Uttarakhand		Himachal Pradesh		All India	
	2004-05	2008-09	2004-05	2008-09	2004-05	2008-09
Output Input ratio	1.3	1.6	1.4	1.5	1.2	1.2
NVA per unit of Output (%)	19.3	34.3	23.8	31.5	15.5	16.1

Source: Calculated from ASI 2004-05 & ASI 2008-09

2.4 Capital Efficiency

Capital efficiency has been captured by output per unit of fixed capital, and is presented in Table 3. The output per unit of fixed capital for the state is

much higher as compared to Himachal Pradesh. The ratio is also higher as compared to all India. The ratio for Uttarakhand has improved over the period under consideration, while it declined at the all India level.

Table 3: Capital Efficiency

Per Factory	Uttarakhand		Himachal Pradesh		All India	
	2004-05	2008-09	2004-05	2008-09	2004-05	2008-09
Output per unit of Fixed Capital	3.5	3.8	1.5	1.9	3.3	3.1

Source: Calculated from ASI 2004-05 & ASI 2008-09

2.5 Employee Efficiency & Emoluments

From Table 4, it would be noted that the employee efficiency as measured by NVA per employee is higher for Uttarakhand as compared to that for Himachal Pradesh. However, due to higher emoluments per employee, the total emoluments as a percentage of NVA are also higher for Uttarakhand. Thus, while the employee efficiency in terms of value addition is higher for Uttarakhand the employee costs are also higher.

As compared to all India the value addition per employee is much higher for Uttarakhand. In spite of the emoluments per employee being double for Uttarakhand as compared to all India, the emoluments as a percentage of NVA remains much lower for Uttarakhand as compared to all India. This has been possible because of substantial improvement in emoluments to NVA ratio for Uttarakhand while it improved only marginally at the all India level.

Table 4: Employee Efficiency and Emoluments

Per Factory	Uttarakhand		Himachal Pradesh		All India	
	2004-05	2008-09	2004-05	2008-09	2004-05	2008-09
NVA per employee (Rs mln)	37.63	123.77	49.34	120.94	30.75	46.59
Total emoluments to NVA (%)	27.7	17.9	15.1	11.3	24.8	24.5
Emoluments per employee (Rs mln)	0.1	0.22	0.07	0.14	0.08	0.11

Source: Calculated from ASI 2004-05 & ASI 2008-09

Over the period under consideration the employee efficiency has improved tremendously for Uttarakhand and Himachal Pradesh, while the improvement at an all India level has not been on that scale. As a result of this the emoluments as percentage of NVA have gone down considerably for both the states, in spite of substantial increase in emoluments.

2.6 Profitability

Profitability is defined as profits as a percentage of output. Profitability of the factories in the State is a healthy 26.1%. This is a direct outcome of higher efficiencies, both production and labour efficiencies, as seen in the above sections.

Table 5: Profitability

Per Factory	Uttarakhand		Himachal Pradesh		All India	
	2004-05	2008-09	2004-05	2008-09	2004-05	2008-09
Profitability (%)	10.5	26.1	8.6	9.1	15.2	25.6

Source: Calculated from ASI 2004-05 & ASI 2008-09

3. Conclusions

Manufacturing, and within that registered manufacturing has played a key role in the rapid economic growth of the state. Manufacturing grew at a CAGR of 27.5%, during 2004-05 to 2010-11. Within manufacturing, the registered manufacturing grew at a CAGR of 33.7%. As a result of this rapid growth the share of manufacturing in SGDP increased from 12.7% to almost double at 23.3%.

In terms of efficiencies-scale, production, capital and employee efficiencies, the state outperformed the all India averages. It also outperformed Himachal Pradesh, a State with similar terrain as Uttarakhand also a State where industry enjoys similar fiscal benefits as Uttarakhand.

In addition to higher efficiencies in absolute terms, the efficiencies in the state have improved considerably over the period under consideration, whereas at an all India level, efficiencies have more less remained stagnant.

This has translated into a healthy profitability for registered manufacturing in the state.

There is a general apprehension in the State that once the manufacturing units in the State stop getting fiscal incentives, they may wind up operations from the State. However given the high efficiencies of units and correspondingly high profitability, it is unlikely that the units would wind up operations after the period of fiscal incentives is over.

In a nutshell registered manufacturing in the state has robust efficiencies and a healthy profitability. If the state could continue to focus on improving the Investment Climate in terms of supporting good infrastructure, transparent policy environment and simplification of procedures related to various clearances and compliances for industry, manufacturing in the State would continue to play an important role in driving the economic growth.

Annexure

Note on Annual Survey of Industries and Definitions

The Annual Survey of Industries provides the most comprehensive data on registered manufacturing sector. The ASI extends to the entire

country except the States of Arunachal Pradesh, Mizoram, and Sikkim and Union Territory of Lakshadweep. It covers all factories registered under Sections 2m(i) and 2m(ii) of the Factories Act, 1948 i.e. those factories employing 10 or more workers and using power; and those employing 20 or more workers without using power. The survey also covers bidi and cigar manufacturing establishments registered under the Bidi & Cigar Workers (Conditions of Employment) Act, 1966 with coverage as above. All electricity undertakings engaged in generation, transmission and distribution of electricity registered with the Central Electricity Authority (CEA) are covered under ASI irrespective of their employment size. Certain servicing units and activities like water supply, cold storage, repairing of motor vehicles and other consumer durables like watches etc. are covered under the Survey. Though servicing industries like motion picture production, personal services like laundry services, job dyeing, etc. are covered under the Survey but data are not tabulated, as these industries do not fall under the scope of industrial sector defined by the United Nations. Defence establishments, oil storage and distribution depots, restaurants, hotels, café and computer services and the technical training institutes, etc. are excluded from the purview of the Survey.

The primary unit of enumeration in the survey is a factory in the case of manufacturing industries, a workshop in the case of repair services, an undertaking or a licensee in the case of electricity, gas & water supply undertakings and an establishment in the case of bidi & cigar industries.

Definitions

Factory: is one that is registered under sections 2m (i) and 2m (ii) of the Factories Act, 1948. The sections 2m (i) and 2m (ii) refer to any premises including the precincts thereof (a) whereon ten or more workers are working, or were working on any day of the preceding twelve months, and in any part of which a manufacturing process is being carried on with the aid of power, or is ordinarily so carried on; or (b) whereon twenty or more workers are working or were working on any day of the preceding twelve

months, and in any part of which a manufacturing process is being carried on without the aid of power, or is ordinarily so carried on.

Output comprises total ex-factory value of products and by-products manufactured as well as other receipts such as receipts from non-industrial services rendered to others, work done for others on material supplied by them, value of electricity produced and sold, sale value of goods sold in the same condition as purchased, addition in stock of semi-finished goods and own construction.

Net Value Added is arrived by deducting total input and depreciation from total output. Net income is Net value added less rent and interest paid.

Emoluments are defined in the same way as wages but paid to all employees plus imputed value of benefits in kind i.e. the net cost to the employers on those goods and services provided to employees free of charge or at markedly reduced cost which are clearly and primarily of benefit to the employees as consumers. It includes profit sharing, festival and other bonuses and ex-gratia payments paid at less frequent intervals (i.e. other than bonus paid more or less regularly for each period). Benefits in kind include supplies or services rendered such as housing, medical, education and recreation facilities. Personal insurance, income tax, house rent allowance, conveyance etc. for payment by the factory also is included in the emoluments.

Profits: Profit is calculated by deducting total emoluments from net income.

Employees relate to all persons engaged by the factory whether for wages or not, in work connected directly or indirectly with the manufacturing process and include all administrative, technical and clerical staff as also labour in production of capital assets for factory's own use. This is inclusive of persons holding position of supervision or management or engaged in administrative office, store-keeping section and

welfare section, watch and ward staff, sales department as also those engaged in the purchase of raw materials etc and production of fixed assets for the factory. It also includes all working proprietors and their family members who are actively engaged in the work of the factory even without any pay and the unpaid members of the cooperative societies who work in or for the factory in any direct and productive capacity. Persons in the head office connected with the manufacturing activity of the factory are also included in this item.

Fixed capital represents the depreciated value of fixed assets owned by the factory as on the closing day of the accounting year. Fixed assets are those that have a normal productive life of more than one year. Fixed capital includes land including lease- hold land, buildings, plant & machinery, furniture and fixtures, transport equipment, water system and roadways and other fixed assets such as hospitals, schools, etc. used for the benefit of the factory personnel.

Notes & References

Based on CSO data at 2004-05 prices

Himachal Pradesh & Uttarakhand received the Government of India's Concessional Industrial Package in January 2003 vide notification number No 1(10)/2001 NER, Ministry of Commerce & Industry, Department of Industrial Policy and Promotion, Government of India, dated 7 January 2003. As per this package units setting up operations in Uttarakhand and Himachal Pradesh were entitled to fiscal incentives in terms of excise and income tax exemptions and capital investment subsidy. The excise exemptions enshrined in the package expired on 31 March 2010. However as the package provides rolling incentives for 10 years, units which have started production before the expiry of the package will avail of fiscal incentives for ten years from the commencement of production.