

Measuring Financial Performance of Small Scale Industries: Some Evidences from India

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Efficient performance is the primary condition for development of any industry, which can boost up the industrial growth in an economy. In a country with a heavy population pressure, industry can transform the entire spectrum of economic activity from agriculture through intensive use of resources. The labour intensive technology may be a better strategy for small-scale industrial sector which can increase employment in an over populated economy. However, financial performance has also to be considered for application of a technology. Without assured factor combination and proper technology, industrial sector cannot flourish. In this paper, an endeavor has been made to analyze the financial performance of small-scale industries in Assam using Data Envelopment analysis method.

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Keywords: *Financial performance, Economy, Technology, Industrial sector.*

1. Introduction

In modern era with the development of Indian economy and rapid expansion of trade, the small scale industrial sector has emerged as a vibrant and dynamic segment in the process of industrialization, which is considered not only as a key factor to lift up the per capita income but also a vital mechanism for a larger transformation of Indian economy. In India, small-scale industrial sector is defined as an industrial undertaking, in which the investment in fixed assets in plant and machinery does not exceed Rs. 1 crore. The Government of India has enhanced this investment limit of Rs. 1 crore to Rs. 5 cores as small-scale industry, in respect of certain specified items. The small-scale industries have played a very important role in the socio-economic development of India during the past 50 years. It has significantly contributed to the overall growth in terms of the Gross Domestic Product (GDP), employment generation and exports. The performance of the small-scale industries, therefore, has a direct impact on the growth of the overall economy. In India, SSIs constitutes 95 per cent of the industrial units and contributes 40 per cent to the total industrial output of the country and 35 per cent of the direct export. There are about 3.6 million small-scale industrial units in India and these have employed approximately 19.3 million people, which is second highest next to agriculture (MSME, 2010). However, the growth of small-scale industries in the country is not evenly distributed among the states. The growth of small-scale industries in

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the North Eastern Region of India is slow in comparison to the other parts of the country. There was practically no planned and systematic effort for industrial development in the region during the first three five-year plans. It was during the fourth five-year plan period that plans were made to set up industries in different regions. However, the development pattern of the small-scale industries of the region is far from encouraging, and these are plagued by innumerable of problems. The level of sickness of the sector is quite high, and this is being aggravated by the basic structure of industrial sector. In case of Assam, the scenario of small-scale industry is very underprivileged about growth, and production is concerned. The importance of this sector for a populous state like Assam stems from the fact that this sector is labour intensive and is therefore seen as an important source of generating the employment opportunities both for skilled and unskilled labour force. According to Economic survey of Assam (2007-2008), there is 27,913 small-scale industrial units in Assam and providing employment to 1, 31,099 persons until 2006-2007, which are only 0.50 per cent of total population. So the contribution of SSIs in terms of employment in Assam is negligible and under privilege.

In many places in the world today, the poor are being paid less while the rich are become richer, and the established processes of planed economic development appear unable to overcome this tendency. In fact, all the developing countries have a modern sector where the patterns of living and working are similar to those of the developed countries. However, they also have a non-modern sector, accounting for the vast majority of the total population, where the patterns of living and working are not only profoundly unsatisfactory but also in a process of accelerating decay (Schumacher, 2011, pp. 1). In this framework, factors of production play a unique and decisive role in the production of goods and services. However, not only factors of production but also their proportion with which they are used is also very important to the productivity as well as from the employment point of view. In the history of economic literature, the factor abundance and factor intensity are the two key insights, which are widely analyzed in relation to production and trade. The relative importance of one factor versus others in production of an industry is typically compared across industries. Looking at the above circumstances, in this paper an attempt has been made for analyzing financial performance of small-scale industries in Assam so that its efficiency on the production can be determined.

2. Methodology

The paper is based on the both primary and secondary data. The Second All-India Census of Registered SSIs was conducted during 1990-1992 for the reference year 1987-88. The data generated by the Census with the passage of time had lost its relevance and required immediate updating to achieve its purpose. In this study necessary data are used right from first to 3rd census of small scale Industries. Secondary data are collected from the publications of various organizations viz. National Sample Survey Organization (NSSO) data, Govt. of Assam publications, Ministry of Small-Scale Industry, Government of India, Directorate of Economics and Statistics, research publications of individual and institutional. A sample survey was also simultaneously conducted to measure the structure of SSIs. The primary data is collected by undertaking field study for investing the factor proportion and productivity on small-scale industries of Assam. For present study, the sample survey is conducted following multi stage sampling. In this study in the first stage, five districts are randomly selected out of 25 districts namely: Kamrup, Jorhat, Golaghat, Dibrugarh and Lakhimpur district. In the 2nd stage about log proportionate sample size is collected from the districts, and the registered small-scale industries from each district are selected, which generates about 220 units.

Single variable seldom reflects level of development of the SSIs as there is both input and output performance of the units. In order to measure the levels of development of the SSIs, eight major variables are taken into consideration for preparing a composite index comprising all the states using Data envelopment analysis (DEA). Data envelopment analysis (DEA) is a nonparametric method in operations research and economics for the estimation of production frontiers. It is used to empirically measure productive efficiency of decision making units (or DMUs). Non-parametric approaches have the benefit of not assuming a particular functional form/shape for the frontier; however they do not provide a general relationship relating output and input. The main variables that are taken for calculating the DEA are:

1. Input variable

- 1) Capital labour Ratio [Input-1]
- 2) Depreciation to fixed Asset [Input-2]
- 3) Current Asset turnover ratio [Input-3]
- 4) Debt to Equity ratio [Input-3]

2. Output Variable

- 1) Net profit ratio [Output-1]
- 2) Labour Productivity [Output-2]
- 3) Capital Productivity [Output-3]
- 4) Total Factor Productivity [Output-4]

3. Results and Discussion

Industrial ratios are very useful as they briefly summaries the result of detailed and complicated computations. Absolute figures are useful but they do not convey much meaning. Financial analysis is a vital apparatus for the interpretation of financial statements and helps to find out cross-sectional and time series linkages between various ratios.

3.1. Liquidity Measurement

Liquidity measurements attempt to measure an industry's ability to pay off its short-term debt obligations. This is accomplished by examining a firm ability to collect accounts receivable in an efficient manner, use its inventory within a short timeframe, pay its accounts payable when due, and maintain a sufficient amount of liquid funds to pay off short-term liabilities. For analyzing the liquidity position of the SSIs firms, Current Ratio and Liquidity Index ratio are used.

3.1.1 Current Ratio

An ideal Current ratio is 2:1 indicating that even if the current assets are to be reduced by half; the creditors will be able to get their money in full. In case, this ratio is less than 2:1, the short-term financial position is not supposed to be very sound and in case, it is more than 2:1, it indicates idleness of working capital.

Table 1 Category Wise Output to Labour Ratios of SSIs in Sample Districts

Categories	Current Asset (Rs)	Current Liabilities (Rs)	Current Ratio
Repairing	5517200	2627238	2.10:1
Agro Based	12111660	4943535	2.45:1
Manufacturing	34721064	18768143	1.85:1
Forest Based	7726500	7501456	1.03:1
Chemical Based	785400	331392.4	2.37:1
Engineering Based	10505300	4909019	2.14:1
Textile Based	8953764	10174732	0.88:1
Rubber/Plastic Based	5040750	3429082	1.47:1
Others	8485400	3965140	2.14:1
Average	10427449	6294415	1.83:1

Source: Field Survey

In case of SSIs Current ratio is low due to high receivables. The average current ratio is 1.83:1 which is highest for forest based industries with 2.45:1 On the other hand the lowest current ratio is at textile based industries (1.88:1) which is quite low. Overall, the current ratio of SSIs is low which may be due to their high working capital and labour intensiveness.

3.1.2. Liquidity Index

The Liquidity Index measures the number of days it would take to convert accounts receivable and inventory into cash. This is useful in determining a company's ability to generate sufficient cash to meet upcoming liabilities.

Table 2 Liquidity Index (Average Value)

Type of the Product	Accounts Receivable Balance	Days to Liquidate	Inventory	Days to Liquidate	Liquidity Index
Repairing	38200	47	71200	86	72.38
Agro Based	42587	31	30578	42	35.60
Manufacturing	175004	65	165247	78	71.31
Forest Based	42157	44	38760	65	54.06
Chemical Based	140285	92	147850	74	82.76
Engineering Based	1680241	64	145784	48	62.72
Textile Based	45285	28	25470	35	30.52
Rubber/Plastic Based	35689	42	31840	31	36.81
Others	59872	65	41890	47	57.59
Average	251035.6	53.11	77624.33	56.22	55.97

Source: Field Survey

Chemical Based industries have highest Liquidity Index of 82.76 followed by repairing industries. The lowest Liquidity Index is found for textile based industries. The average liquidity index value is 55.97. The repairing industries are showing highest 86 days to liquidate the accounts receivable and inventory into cash.

3.2. Efficiency/Activity Ratio

Activity ratios measure how quickly a firm converts non-cash assets to cash assets. It measures company's sales per another asset account. For analyzing the firm Efficiency/Activity ratio, Current Asset turnover Ratio and Inventory Turnover Ratio are used.

3.2.1. Current Asset Turnover Ratio

Current Asset Turnover ratio is a financial ratio that measures the efficiency of a company's use of its assets in generating sales revenue or sales income to the company. The current asset turnover ratios of theSSIs are depicted in table: 3

Table 3 Category wise Current Asset Turnover Ratios

Categories	Net Sales	Current Asset	Current Asset Turnover Ratio
Repairing	797063	741990	1.07
Agro Based	831549	705430	1.18
Manufacturing	796580	778160	1.02
Forest Based	1064331	860650	1.24
Chemical Based	913826	1199290	0.76
Engineering Based	1317351	1083210	1.22
Textile Based	1281477	1745890	0.73
Rubber/Plastic Based	1348072	1687990	0.80
Others	1091953	1364110	0.80
Average	1049134	1129635.6	0.93

Source: Field Survey

The average Current Asset turnover ratio is found to be 0.93, which is very low below one indicating that for Rs. 1 of investment in asset the SSI firms are able to generate only Rs. 0.93. It is found above one for repairing, agro based, engineering based, manufacturing, and forest based industries. The lowest Current Asset Turnover ratio is found for textile base industries.

3.2.2 Inventory Turnover Ratio

The Inventory Turnover ratio is a process of measuring the number of times that holdings are sold within a specified period. The current asset turnover ratios of the SSIs are depicted in table: 4

Table 4 Category wise Inventory Turnover Ratio

Categories	Sales	Current Asset	Current Asset Turnover Ratio
Repairing	10361819	4485636	2.31
Agro Based	16659201	2544166	6.55
Manufacturing	10355540	3297943	3.14
Forest Based	17524936	2332304	7.51
Chemical Based	11879738	9473475	1.25
Engineering Based	17125563	4174930	4.10
Textile Based	10810137	5855979	1.85
Rubber/Plastic Based	13836303	2857264	4.84
Others	14195389	2408039	5.90
Average	13638736	4158860	4.16

Source: Field Survey

The Inventory Turnover Ratio, which represents the speed with which the inventory is sold, is 4.16 for SSIs in Assam. The typical value of inventory turnover ratio is 7:1 (Bagad, 2010, pp. 8-4). Therefore, Inventory Turnover Ratio is at a reasonable level but less than the typical value of 7:1. However, forest based and agro based industries are performing well with Inventory Turnover ratio closer to 7:1.

3.3. Solvency Measurements

Solvency measurements Addressa Company's ability to remain solvent. Solvency is a key concern of the cash flow measurement. For analyzing the Solvency ratio Debt to Equity ratio and Asset Quality Index are calculated for SSIs in Assam.

3.3.1. Debt to Equity Ratio

This ratio is one of the most closely watched by creditors and investors, because it reveals the extent to which company management is willing to fund its operations with debt, rather than equity. The Debt to Equity Ratio of the SSIs are depicted in table: 5

Table 5 Industrial Category wise Debt to Equity Ratio

Categories	Debt (Rs.)	Equity (Rs.)	Debt to Equity Ratio
Repairing	40794.56	59380.73	0.69
Agro Based	65587.41	29948.59	2.19
Manufacturing	40769.84	20907.61	1.95
Forest Based	68995.81	40898.52	1.69
Chemical Based	46770.62	22926.78	2.04
Engineering Based	67423.48	36532.01	1.85
Textile Based	42559.59	23909.88	1.78
Rubber/Plastic Based	54473.63	35372.49	1.54
Others	55887.36	48345.47	1.16
Average	53695.81	28637.77	1.88

Source: Field Survey

The SSIs of Assam are not following a fixed Debt to Equity ratio of 2:1, which is a healthy one. The average Debt to Equity ratio for SSIs is 1 which is lower than 2:1. In this regards chemical based industries and agro based industries are running their business at a Debt to Equity ratio over two. The lowest Debt to Equity ratio is 0.69 for repairing industries. As a whole the Debt to Equity ratio for SSIs are fair and running at a good healthy rate.

3.3.2 Asset Quality Index (A_{qi})

The asset quality index is an measurement for industry's that are capitalizing an increasing proportion of their costs over time, which can be a sign of changes in accounting methods that are designed to show an increased level of profitability than is really the case. The Asset Quality Index of the SSIs are depicted in table: 6

Table 6 Asset Quality Index

Type of the Product	At the time of Establishment	2008-2009	Asset Quality Index
	Current assets+ Net fixed assets /Total assets	Current assets+ Net fixed assets /Total assets	
Repairing	3.61	3.06	1.18
Agro Based	0.27	0.66	0.41
Manufacturing	0.74	0.85	0.87
Forest Based	1.23	2.80	0.44
Chemical Based	2.56	2.46	1.04
Engineering Based	0.87	0.96	0.91
Textile Based	0.78	1.30	0.60
Rubber/Plastic Based	0.95	2.02	0.47
Others	0.46	0.47	0.98
Average	1.27	1.62	0.77

Source: Field Survey

The A_{ql} measures the proportion of total assets for which future benefits are uncertain. In case of SSIs of Assam, the average A_{ql} is 0.98, which is somewhat closer to one and indicates that SSIs of Assam have potentially deferred costs in an effort to increase the bottom line. The repairing and the chemical industry have A_{ql} over the value of one and so indicate a potential increase in cost deferral in intangible assets resulting from acquisitions.

3.4. Profitability Measurement

One of the most frequently used tools of financial ratio analysis is profitability ratios which are used to determine the company's bottom line. Profitability measures are important to company managers and owners alike. The profitability is measured by Gross Profit ratio and Net Profit ratio.

3.4.1 Gross Profit Ratio

Gross profit ratio is the ratio of Gross Profit to Net Sales expressed as a percentage. It expresses the relationship between Gross Profit and sales.

Table 7 Industrial Category wise Gross Profit Ratios

Categories	Gross Profit(Rs.)	Net Sales (Rs.)	Gross Profit Ratio (per cent)
Repairing	263030.8	797063	33
Agro Based	607030.8	831549	73
Manufacturing	103555.4	796580	13
Forest Based	670528.5	1064331	63
Chemical Based	45691.3	913826	05
Engineering Based	843104.6	1317351	64
Textile Based	345998.8	1281477	27
Rubber/Plastic Based	458344.5	1348072	34
Others	207471.1	1091953	19
Average	251792.2	1049134	24

Source: Field Survey

Average Gross Profit Ratio of SSIs is 24 per cent means that for every Rs. 100 in sales, SSIs have 24 percents to cover their basic operating costs and profit. Agro based industries are found to receive highest 73 per cent Gross Profit followed by engineering and agro based industries with 64 per cent and 63 per cent Gross Profit respectively. The lowest Gross Profit ratio is for chemical based industries.

3.4.2. Net Profit Ratio

Profit Margin, Net Margin, Net Profit Margin or Net Profit Ratio all refer to a measure of profitability. The two basic components of the Net profit ratio are the Net Profit and sales. The Net Profits are obtained after deducting income tax and, generally, non-operating expenses and incomes are excluded from the Net Profits for calculating this ratio. The Net Profit ratio of the SSIs are depicted in table: 8

Table 8 Industrial Category wise Net Profit Ratio

Categories	Net Profit (Rs.)	Net Sales (Rs.)	Net Profit Ratio (per cent)
Repairing	95647.56	797063	12
Agro Based	307673.1	831549	37
Manufacturing	79658	796580	10
Forest Based	372515.9	1064331	35
Chemical Based	18276.52	913826	2
Engineering Based	566460.9	1317351	43
Textile Based	243480.6	1281477	19
Rubber/Plastic Based	188730.1	1348072	14
Others	76436.71	1091953	7
Average	208661	1049134	20

Source: Field Survey

The Net Profit Ratio is less than the Gross Profit Ratio. The average Net Profit ratio is 20 per cent, which is highest for engineering based industries and lowest for chemical based industries.

4. Data envelopment analysis and Ranking of Small Scale Industries

After carry out DEA, we will rank the groups of the small scale industrial units according to efficiency score provide by EMS based DEA. The output based measure of the industrial groups depicts the following results.

Table 9 Result of DEA

DMU	Score(Output Based)	Ranking
Repairing	60.78%	8
Agro Based	82.01%	1
Manufacturing	73.41%	3
Forest Based	62.58%	6
Chemical Based	81.67%	2
Engineering Based	66.25%	5
Textile Based	68.81%	4
Rubber/Plastic Based	63.99%	7
Others	56.78%	9

In the performance ranking we have found that Agro based industries are ranked-1. Chemical based industries are ranked 2nd followed by manufacturing, Textile based, Engineering based industries, Forest based and Rubber/Plastic based industries. Importantly, capital intensive industries are seemed to be performing well in DEA.

5. Conclusion

The above analysis indicates that the sustainability of the factor ratios are not up to mark and productivity of the inputs, especially the labour is low as compared to capital. So the mobility of the inputs is small and choice among the modern technology is hard as the management and quality of the labour inputs are not good. Most of them have little formal training facility, and the infrastructure facilities of the units are far below the standard. However, when there

is the limited capability of choice among alternative's methods of production, the choice is required in terms of type of industry that has flexibility of technology, production and future marketing opportunities. In developing countries generally there exists no unique relationship between the macro policy and micro industrial structure.

In Assam there are not the immediate shortage of funds rather shortage of immediate profitable opportunities. Thus, the question of factor choice can be shifted to choice of appropriate techniques. Further the choice of factor must be viewed both from general economy as well as industry specific point of view; as few technologies of SSIs have the flexibility of choice and other developing countries uses the technology developed by the western countries. In SSIs, the native investors of Assam get difficulty in raising the funds and since government can decide preference of technology for the public sector undertaking industries not for the private sector. But they can influence the price of the factors which affects the choice mad by the private investors. However, farm level planning is equally important with the economic planning. Japan's industrialization however was a long extent the outcome of deliberate planning by a small group of firms which cooperated with each other and with the government. A policy regime correcting the structural imbalance present in Assam can provide a better environment for development of the small scale industries in Assam.

References:

Bagad, V. S. 2010. Managerial Economics and Financial Analysis, *Technical Publications*, New Delhi.

Economic Survey 2008. *Economic Survey of Assam (2007-2008)*, Government of Assam.

Schumacher 1993. *Small is Beautiful*, Vintage, United States.

MSME 2010. *Annual Report, 2009-2010*, Ministry of Micro, Small and Medium Enterprises.