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Efficiency of Large Scale Units and Small Scale Units – A Comparative Study

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ABSTRACT

The core of any economic activity, whether it is consumption or production or anything else, is to strive for the maximum possible efficiency. The term 'efficiency' is widely used, but it is quite difficult to put it into a precise framework of definition. In any sphere of activity, efficiency is ratio of results achieved to the means used. It is the ability of an individual or organization to produce the desired effect with the minimum of efforts, expenses or wastes. The state of efficiency shows the quality of skills and the degree of success achieved in performance of different operations and management of an enterprise. Industrial efficiency has many dimensions. The purpose of this paper is to assess the relative efficiency of large and small units. The final sample includes 98 small units, out of which 75 belongs to bicycle industry and 23 units belong to automobile industry. Area wise representation in the sample consists of Ludhiana (81 units), Malerkotla (7 Units), Nabha (8 Units) and Khanna (2 Units).

1. Introduction

The core of any economic activity, whether it is consumption or production or anything else, is to strive for the maximum possible efficiency. The term 'efficiency' is widely used, but it is quite difficult to put it into a precise framework of definition. In any sphere of activity, efficiency is ratio of results achieved to the means used. It is the ability of an individual or organization to produce the desired effect with the minimum of efforts, expenses or wastes. The state of efficiency shows the quality of skills and the degree of success achieved in performance of different operations and management of an enterprise. Industrial efficiency has many dimensions. If we take a firm as a technical unit engaged in the production of a commodity, its job is to transform a set of given inputs into some output defined by production function. In this case, the emphasis will be on 'productive efficiency' (Parrel, 1957, p.120).If we take a firm as an organizational unit engaged in the production and disposal of a commodity for some desired purpose, then the emphasis will be on business/economic efficiency.A broader concept takes care of economic efficiency, which may be called business efficiency from a firm's point of view. The concept of economic efficiency depends upon two propositions:

(i) Resources at the disposal of the firm are scarce.
(ii) They can be put on alternative uses.

For economic efficiency, one must have efficient planning and regulation of the operations, a willingness to accept changes in the policies related to the conduct of the business. If there is inefficiency on the part of management, the entire operations will be inefficient, and the same may be termed as internal inefficiency. Various factors affecting economic efficiency include structural conditions prevailing in the industry, short term fluctuations in the market for both inputs and outputs of the firm, trade union activities and government regulations etc.To know the relative efficiency and viability of industrial units under study, attempt has been made to carry on financial analysis of the firms based on various ratios of small scale units as well as large scale units.

2. Scope and Methodology

The study is based upon large and small scale units from bicycle and automobile (two wheeler) industry existing in the state of Punjab. The study pertains to the period of 2018-2019. For the purpose of this study, both secondary and primary data has been used. The main sources of secondary information are Directorate of Industries, Small Industries Service Institute, Annual Survey of Industries, and Annual Reports of small and large units for the relevant periods etc. The primary data has been collected from both small and large units belonging to bicycle and automobile (two wheeler) industries through a structured questionnaire.Such information has been collected either from owners or managerial level functionaries from the units selected in the sample.

3. Sample for the Study

For collecting primary data, universe of the study consisted of large units and small units belonging to both industries. Bicycle industry has 7 large units and automobile (two wheeler) only one unit operating in the Punjab state. The related primary data has been collected from all the large units which are located at Ludhiana (6 bicycle units and one automobile unit) and one at Rajpura. As far as small units are concerned, no exact figure could be available regarding their number of units in automobile industry belonging to two wheeler segment. In the light of this, a sample of 100 small scale units was selected on convenience basis divided as 75 from bicycle industry and 25 from automobile industry. However, care has been taken to represent various categories of small scale units as well as the geographical areas where these units are mainly concentrated. In this way, the sample included 25 ancillary units, 60 vendor units, one subsidiary unit and 14 other units. The required information could not be

had from two small units from automobile industry (one belonging to ancillary and another to vendor category). Therefore, the final sample includes 98 small units, out of which 75 belongs to bicycle industry and 23 units belong to automobile industry. Area wise representation in the sample consists of Ludhiana (81 units), Malerkotla (7 Units), Nabha (8 Units) and Khanna (2 Units).

4. Analysis of the Data

With the help of ratios, one can analyze, the liquidity position, long term solvency position, operating efficiency and performance, information about trend, inter-firm comparison etc.

For the purpose of making a comparative assessment of efficiency of small and large units operating in bicycle and automobile industry, the following ratios have been worked out:

1. Liquidity Ratios
2. Turnover Ratios
3. Solvency/Leverage Ratios
4. Profitability Ratios

1. **Liquidity Ratios:** Liquidity ratios measure the firm's ability to meet current obligations, that is, capacity of the firm to pay its current liabilities as and when these fall due. Thus, these ratios reflect the short term solvency of a firm. These ratios are generally based on relationship between current assets and current liabilities.

To measure the liquidity of firms, the following ratios are calculated:

(a) **Current Ratio:** The current ratio establishes the relationship between current assets and current liabilities. It is calculated by dividing current assets by current liabilities.

Thus:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

The current assets include those assets which can be converted into cash within a short period of time normally not exceeding one year, during the normal course of business. These include cash and bank balance, marketable securities, inventory, debtors excluding provision for bad and doubtful debts, bills receivable, prepaid expenses. The current liabilities are those liabilities which become due for payment within a short period of time not exceeding a year. These include sundry creditors, bills payable, short term loan, income tax liability, accrued expenses, and dividend payable.

The position of current ratio of small units and large units relating to bicycle and automobile (two wheeler) industry covered in the study is presented in table 1.1.

Table 1.1

Position of Current Ratio for Small and Large Units

Industry	2018	2019	Increase/decrease (Percentage)
Bicycle			
Small Units	1.784	1.739	-2.58
Large Units	1.832	1.962	7.06
All Units	1.831	1.958	6.9
Automobile			
Small Units	1.48	1.553	4.93
Large Units	1.411	1.202	-14.8
All Units	1.412	1.215	-13.95

Source: Calculated from Annual Reports of Small & Large Units

Table 1.1 shows that large scale units in bicycle industry are maintaining higher current ratio than the small units, although the difference is marginal. Not only this, the ratio has shown an increase of 7.06 percent in case of large units as compared to decline of 2.58 percent in case of small units during 2019, whereas overall industry ratio (bicycle industry consisting of both small and large units) has shown an increase of 6.9 percent during 2019 over the previous year. On the other hand, the current ratio is higher in small scale units than the large scale units in the case of automobile industry. Further, the ratio has shown an increase of 4.93 percent over the previous year in case of small scale units whereas the same has declined by 14.8 percent over last year in case of large units. Overall industry ratio has also shown a decline of 13.95 percent over the last year.

(b) **Acid Test Ratio/Quick Ratio**

Acid test ratio establishes the relationship between quick assets and current liabilities. It is calculated by dividing quick assets by current liabilities. Thus,

$$\text{Acid Test Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}}$$

Quick assets are those current assets, which can be converted into, cash immediately or within reasonably short time without a loss of value. These include cash and bank balance, sundry debtors, bills receivable and short-term marketable securities.The table 1.2 below presents the position of acid test ratio for both the industries existing in small and large sector.

Table 1.2

Position of Acid Test Ratio for Small and Large Units

Industry	2018	2019	Increase/decrease (Percentage)
Bicycle			
Small Units	1.158	1.074	-7.21
Large Units	1.463	1.581	8.06
All Units	1.458	1.573	7.88
Automobile			
Small Units	0.77	1.01	31.16
Large Units	1.006	0.823	-18.19
All Units	0.99	0.83	-16.19

The analysis of the ratio in table 1.2 has unveiled the fact that acid test ratio of large units in bicycle industry is higher than the small scale units. The table further shows that although, the ratio presents a good liquid position for both large and small sectors, the same has declined by 7.21 percent during 2019 as compared to 2018 for small sector, whereas in case of large sector, the ratio has shown an improvement by 8.06 percent over the last year. The overall ratio for both sectors (large and small) in bicycle industry has improved to 1.573 during 2019 from 1.458 in 2018.

On the other hand, in the context of automobile industry, the liquid position is not very satisfactory. During 2018, the ratio is higher in large scale units than the small scale units whereas in 2019, the position has reversed, that is, the ratio is higher in small scale units as compared to large units. Further, the quick ratio of small scale units has shown an increase of 31.16 percent over the last year, while in case of large units, the ratio has shown a decline of 18.19 percent. The overall industry analysis has also shown a decline of 16.19 percent over the last year.

2. **Turnover Ratios:** Turnover ratios, also known as activity ratios or efficiency ratios, measure the efficiency with which a firm manages its current assets. These ratios indicate the speed with which current assets are being converted into cash/sales. The following turnover ratios can be calculated to judge the effectiveness of asset use:

(a) **Inventory Turnover Ratio:** This ratio indicates the number of times, the inventory has been converted into sales during the period. It evaluates the efficiency of the firm in managing its inventory. The ratio is calculated by dividing the cost of goods sold by the average inventory.

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

The position of inventory turnover ratio for small and large units in both industries is presented in table 1.3:

Table 1.3

Position of Inventory Turnover Ratio for Small and Large Units

Industry	2018	2019	Increase/decrease (Percentage)
Bicycle			
Small Units	8.372	7.829	-6.48
Large Units	17.167	16.883	-1.65
All Units	16.834	16.493	-2.03
Automobile			
Small Units	6.658	8.150	22.4
Large Units	12.839	13.851	7.88
All Units	12.445	12.486	0.329

From the table 1.3, the ratio is found to be significantly higher for large scale units in both bicycle and automobile industries as compared to small scale units in them. However, the ratio has shown a declining trend for both large and small scale units in bicycle industry. Whereas in case of small scale bicycle units, it has declined by 6.48 percent over the last year whereas it has declined by 1.65 percent in the case of large units during the same period.

On the other hand, in case of automobile industry, the ratio has shown an improvement of 22.4 percent for small units and 7.88 percent for large units. The overall industry ratio has shown an improvement of 0.329 percent.

(b) **Asset Turnover Ratio:** A firm uses various assets to generate sales. Thus, the firm should manage its assets efficiently to maximize sales. The relationship between assets and sales is known as asset turnover. This ratio shows the firm's ability to generate sales from all financial resources committed to total assets. Total assets include current assets and net fixed assets. The ratio is calculated as below:

$$\text{Asset Turnover Ratio} = \frac{\text{Sales}}{\text{Total Assets}}$$

The increase in the ratio will mean better utilization of assets while decline in ratio will indicate under utilization of assets.

Table 1.4 shows that the ratio is almost same in both the large scale and small scale units in bicycle industry. Although the ratio has increased marginally to 2.370 in 2019 from 2.301 in 2018 for small scale units, but it has declined to 2.228 in 2019 from 2.620 in 2018 for large scale units. The overall industry ratio for both sectors in bicycle industry has also declined from 2.614 to 2.231 during the same period.

The position of asset turnover ratio for small and large units in both industries is presented in table 1.4:

Table 1.4
Position of Asset Turnover Ratio for Small and Large Units

Industry	2018	2019	Increase/decrease (Percentage)
Bicycle			
Small Units	2.301	2.370	2.99
Large Units	2.620	2.228	-14.96
All Units	2.614	2.231	-14.65
Automobile			
Small Units	1.906	1.702	-10.70
Large Units	1.895	1.695	-10.55
All Units	1.894	1.696	-10.45

On the other hand, in the context of automobile industry, the position of this ratio is also almost same for both large and small sector. However, the ratio has shown a declining trend for both large and small sector that is the same has declined from 1.895 in 2018 to 1.695 in 2019 for large sector and from 1.906 in 2018 to 1.702 in 2019 for small sector. The overall industry ratio has also declined during the above period.

(c) **Working Capital to Net Sales Ratio:** This ratio is a measure of the efficiency of the employment of working capital. It shows the relationship between the amount of working capital and net sales .

$$\text{Working Capital to Net Sales Ratio} = \frac{\text{Working Capital}}{\text{Net Sales}}$$

If this ratio is low in a firm, it may mean over trading or may indicate the need for additional funds to support a capital structure unbalanced by top heavy investment in fixed assets. On the other hand, a high ratio may be the result of under trading or investment of more funds in the working capital than generally required.

Table 1.5 shows that the ratio is marginally higher for large scale units than the small scale units in bicycle industry. Further, the ratio has shown a negative growth of 4.13 percent in small sector whereas there is an improvement of 23.02 percent in large sector. The overall industry ratio has increased to 0.186 in 2019 from 0.152 in 2018 indicating a growth of 22.36 percent.

The position of working capital to net sales ratio relating to both industries is shown as below:

Table 1.5
Position of Working Capital to Net Sales Ratio for Small and Large Units

Industry	2018	2019	Increase/decrease (Percentage)
Bicycle			
Small Units	0.145	0.139	-4.13
Large Units	0.152	0.187	23.02
All Units	0.152	0.186	22.36
Automobile			
Small Units	0.102	0.099	-2.9
Large Units	0.086	0.054	-37.2
All Units	0.0869	0.055	-36.7

Source: Calculated from Annual Reports of Small & Large Units.

On the other hand, in case of automobile industry, the ratio is higher in small scale units as compared to large scale units. While the ratio has declined only by 2.9 percent for small units, the same has declined by 37.2 percent for large scale units. Further, the overall industry ratio has shown a decline of 36.7 percent.

3. **Solvency/Leverage Ratios:**There are two aspects of the long term solvency of a firm:

(a) Ability to repay the principal amount when due,

(b) Regular payment of the interest.

The following ratios serve the purpose of determining the solvency of a concern.

(a) **Debt-Equity Ratio:** This is a vital ratio to determine the efficiency of financial management of a business undertaking. This ratio is determined to ascertain the soundness of the long term financial policies of a business. Debt-equity ratio shows the relative claims of creditors (outsiders) and owners (internal) against the assets of the firm. It indicates the relative proportions of debt and equity in financing the firm's assets. It is calculated by dividing outsiders' funds (debt) by shareholder's funds (equity), that is,

$$\text{Debt Equity Ratio} = \frac{\text{Outsiders'Funds}}{\text{Shareholders'Funds}}$$

The outsiders' funds include long term debts as well as current liabilities. The shareholders' funds include equity share capital, preference share capital and reserves and surpluses including accumulated profits. Fictitious assets like accumulated losses and deferred expenses should be deducted from total of these items of calculate shareholders funds.

Table 1.6 shows that ratio in small scale units has been higher than the large scale units for both bicycle and automobile industries. Not only this, it has increased over the period in both the industries. While ratio has increased to 2.558 in 2019 from 1.739 in 2018 small scale units and in large units, it has gone to 1.947 in 2019 from 1.737 in 2018 for bicycle industry.

On the other hand, the ratio has gone up from 2.581 in 2018 to 2.901 in 2019 for small scale units and from 2.444 in 2018 to 2.833 in 2019 for large scale units in the case of automobile industry. Thus the overall industry ratio has also shown an improvement for both industries during the period.

The position of debt-equity ratio for both industries is presented in table 1.6

Table 1.6
Position of Debt Equity Ratio for Small and Large Units

Industry	2018	2019	Increase (Percentage)
Bicycle			
Small Units	1.739	2.558	47.08
Large Units	1.737	1.947	12.08
All Units	1.737	1.953	12.43
Automobile			
Small Units	2.581	2.901	12.39
Large Units	2.444	2.833	15.91
All Units	2.446	2.835	15.90

Source: Calculated from Annual Reports of Small & Large Units.

(b) **Solvency Ratio:** This ratio is calculated to ascertain the proportion of total funds i.e. short term and long term funds provided by outsiders to finance total assets.

$$\text{Solvency Ratio} = \frac{\text{Total Outside Liabilities}}{\text{Total Assets}}$$

The lower the ratio, better would be the financial position and long term solvency of firm.

The position of solvency ratio for both industries existing in small and large sector is clear from the table 1.7

Table 1.7
Position of Solvency Ratio for Small and Large Units

Industry	2018	2019	Increase (Percentage)
Bicycle			
Small Units	0.616	0.705	14.44
Large Units	0.939	0.947	0.85
All Units	0.932	0.943	1.18
Automobile			
Small Units	0.721	0.732	1.52
Large Units	0.993	1.075	8.25
All Units	0.985	1.056	7.20

Source: Calculated from Annual Reports of Small & Large Units.

It is clearly visible from the table that the ratio is found to be significantly higher for large scale units in both bicycle and automobile industries as compared to small units belonging to them.

However, the ratio has shown an increase of 14.44 percent in case of small scale units as compared to 0.85 percent increase in case of large scale units. The overall industry ratio for bicycle industry has shown an increase of 1.18 percent during 2019 over the previous year.

On the other hand, in the context of automobile industry, the ratio has shown an increase of 1.52 percent for small units and 8.25 percent for large units. The overall industry ratio has also shown an improvement of 7.20 percent during the period.

(c) **Fixed Assets to Net Worth Ratio:** This is another ratio to judge the financial stability of a business. This ratio establishes the relationship between fixed assets and shareholders' funds. It is calculated by dividing fixed assets by shareholders' funds.

$$\text{Fixed Assets to Net Worth Ratio} = \frac{\text{Fixed Assets}}{\text{Net Worth}} \times 100$$

Table 1.8 shows the position of fixed assets to net worth ratio in case of both industries.

Table 1.8 shows that the ratio is found to be significantly higher for large scale units in both bicycle and automobiles industry as compared to small units in them. However, the ratio has shown an increase of 14.3 percent in case of small scale units as compared to 1.56 percent in case of large scale units.

On the other hand, in the context of automobile industry, the ratio has shown a decline of 25.71 percent over the last year in case of small scale units whereas there has been an increase of 13.76 percent in case of large scale units over the last year. Thus, it is quite evident that while shareholders' funds are generally sufficient to meet fixed assets requirements for both small and large units in case of bicycle industry, the same are found to be insufficient to finance assets in automobile industry especially in case of large units.

Table 1.8
Position of Fixed Assets to Net Worth Ratio for Small and Large Units

Industry	2018	2019	Increase/decrease (Percentage)
Bicycle			
Small Units	60.1	68.7	14.3
Large Units	95.8	97.3	1.56
All Units	95.3	97.1	1.88
Automobile			
Small Units	130.1	96.6	-25.71
Large Units	175.8	200	13.76
All Units	174.8	196.5	12.41

Source: Calculated from Annual Reports of Small & Large Units.

(d) **Fixed Asset Ratio/Fixed Asset to Long Term Funds Ratio:** This ratio establishes the relationship between fixed assets and long term funds. It is calculated as:

$$\text{Fixed Assets to Long Term Ratio} = \frac{\text{Fixed Assets}}{\text{Long Term Funds}} \times 100$$

Table 1.9 shows the position of fixed asset ratio for both industries existing in small and large sector.

Table 1.9
Position of Fixed Asset Ratio for Small and Large Units

Industry	2018	2019	Increase/decrease (Percentage)
Bicycle			
Small Units	37.2	35.2	-5.37
Large Units	51.8	47.6	-8.1
All Units	51.6	47.4	-8.13
Automobile			
Small Units	53.3	41.9	-24.18
Large Units	71.4	76.0	6.44
All Units	71.1	74.9	5.34

Source: Calculated from Annual Reports of Small & Large Units.

Table 1.9 shows that large scale units in bicycle industry are having higher fixed asset ratio than the small scale units. On the other hand, in case of automobile industry also, the ratio is higher in large scale units than the small scale units. However, the long term funds are quite sufficient to meet the requirements of fixed assets in both large and small units in bicycle as well as automobile industry.

(e) **Debt Service Ratio/Interest Coverage Ratio:** This ratio measures the debt servicing capacity of a firm so far as the fixed interest on long term loans is concerned. It shows the number of times the earnings of the firm are able to cover the fixed interest liability of the firm. So this ratio is also known as 'Interest Coverage' or 'Time Interest Earned' ratio. It is calculated as:

$$\text{Debt Service Ratio} = \frac{\text{Earnings before Interest and Taxes}}{\text{Interest Charges}}$$

The position of debt service ratio for both sectors relating to bicycle and auto industry is clear from table 1.10

Table 1.10
Position of Debt Service Ratio for Small and Large Units

Industry	2018	2019	Increase/decrease (Percentage)
Bicycle			
Small Units	3.058	1.772	-42.06
Large Units	3.018	3.32	10.06
All Units	3.017	3.298	9.31
Automobile			
Small Units	2.381	1.904	-20.04
Large Units	1.364	0.600	-56.00
All Units	1.382	0.647	-53.18

Table 1.10 shows that for the year 2018, the ratio is higher for the small scale units than the large scale units, however, it is found to be significantly higher for large scale units than small scale during 2019 in case of bicycle industry. Further, the ratio has declined to 1.772 in 2019 from 3.508 in 2018 for small units, but it has shown an improvement from 3.018 in 2018 to 3.32 in 2019 in case of large scale units.

On the other hand, in case of automobile industry, the ratio is higher in small scale units than the large scale units. However, the ratio has shown a declining trend for both large and small units in auto industry. The ratio has shown a decline of 20.04 percent in case of small units and 56 percent in the case of large units over the previous year. The overall industry ratio has shown a decline of 53.18 percent over the last year.

Thus, both the industries have sufficient profits to pay its interest liability, although declining ratio is a matter of concern for both industries, more specifically for large units in automobile industry.

4. **Profitability Ratios**

Profitability reflects the earning power of operating performance of the organization. The profitability of the firm can be measured by calculating various profitability ratios. Since, generation of profit depends on sales as well as investment, therefore, two groups of ratios can be calculated to know about the profitability of an enterprise.

(I) **Profitability in Relation to Sales**

The profitability ratios in relation to sales are as follows:

(a) **Gross Profit Ratio/Gross Profit Margin**

This ratio measures the relationship between gross profit and sales. It is calculated by dividing gross profit by sales, that is,

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100$$

Gross profit is the difference between sales and cost of goods sold. This ratio reflects the efficiency with which management produces each unit of product.The position of gross profit ratio for small and large units existing in bicycle and auto industry is shown in table 1.11.

Table 1.11

Position of Gross Profit Ratio for Small and Large Units

Industry	2018	2019	Increase/decrease (Percentage)
Bicycle			
Small Units	11.777	11.337	-3.73
Large Units	21.444	20.870	-2.67
All Units	21.285	20.696	-2.76
Automobile			
Small Units	15.225	17.951	17.9
Large Units	26.71	24.139	-9.62
All Units	26.371	23.795	-9.76

Table 1.11 shows that the ratio is found to be significantly higher in large scale units than the small scale units for both bicycle and automobile industry. But ratio has shown a declining trend in bicycle industry in both sectors, that is, in small scale units, the ratio has declined by 3.73 percent and by 2.67 percent in large scale units.

On the other hand, in the context of automobile (two wheeler) industry the ratio has increased by 17.90 percent for small scale units, whereas the same has declined by 9.62 percent in case of large scale units. The overall industry ratio has shown a decline of 9.76 percent over the previous year.

(b) **Operating Profit Ratio**

This ratio establishes the relationship between operating profit and net sales. It is calculated by dividing operating profit by sales.

$$\text{Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$$

Operating profit represents the difference between net sales and total operating expenses. Generally, higher the ratio, more preferable it is and vice versa.

Table 1.12 shows the position of operating profit ratio for both industries existing in small and large sector.

Table 1.12

Position of Operating Profit Ratio for Small and Large Units

Industry	2018	2019	Increase/decrease (Percentage)
Bicycle			
Small Units	8.819	7.809	-11.45
Large Units	12.528	12.15	-3.017
All Units	12.466	12.07	-3.17
Automobile			
Small Units	10.127	9.063	-10.5
Large Units	14.333	13.772	-3.91
All Units	14.208	13.51	-4.91

Table 1.12 shows that the ratio is found to be higher in large units than in the small units for both bicycle and auto mobile industry. But the ratio has shown a declining trend in bicycle industry for both sectors, that is, the ratio has declined by 11.45

percent in case of small units and by 3.017 percent in case of large units. The overall industry ratio has also shown a decline of 3.17 percent over the period.

On the other hand, in case of automobile industry, the ratio has also declined by 10.5 percent in case of small units whereas, it has declined only by 3.91 percent in case of large scale units. Consequently, the overall industry ratio has declined by 4.91 percent over the previous year.

II **Profitability Ratios based on Investment**

The following ratios are based on different concepts of investment.

(a) **Return on Gross Capital Employed**

The term gross capital employed refers to the total investment made in the business and is represented by total assets used in the business. This ratio establishes the relationship between earnings before interest and taxes and gross capital employed.

The ratio is calculated as:

$$\text{Return on Gross Capital employed} = \frac{\text{EBIT}}{\text{Gross Capital Employed}} \times 100$$

Thus, this ratio is a measure of business performance which is not affected by interest charges and tax payments. The higher the ratio, the more efficient is the use of capital.

Table 1.13 shows the position of return on gross capital employed ratio for small and large units existing in bicycle and auto industry.

Table 1.13
Position of Return on Gross Capital Employed Ratio for Small and Large Units

Industry	2018	2019	Increase/decrease (Percentage)
Bicycle			
Small Units	5.9	6.1	3.38
Large Units	16	15	-6.25
All Units	15.7	14.9	-5.09
Automobile			
Small Units	8	6.4	-20.00
Large Units	16.8	10.8	-35.7
All Units	16.4	10.5	-35.9

Table 1.13 shows that the ratio is found to be higher in large scale units than the small units for both bicycle and auto mobile industry. However, the ratio has shown a marginal improvement (3.38 percent) in small scale units over the previous year in bicycle industry while in case of large units, the ratio has declined by 6.25 percent over the last year. The overall industry ratio has also shown a decline of 5.09 percent over the year 2019.

On the other hand, in case of automobile industry, the ratio has shown a declining trend for both the sectors, that is in small scale units the ratio has declined by 20 percent and in large scale units by 35.7 percent. The overall industry ratio has declined by 35.9 percent over the last year.

(b) **Return on Net Capital Employed**

The term net capital employed refers to the gross capital employed in a business less its current liabilities. Thus, it is represented by long term funds supplied by the creditors and owners of the firm.

$$\text{Return on Net Capital employed} = \frac{\text{Earning berore Interest \& Tax}}{\text{Net Capital Employed}} \times 100$$

Higher the ratio, more efficient is the use of capital employed.

Table 1.14 shows that the ratio is found to be higher in large scale units than the small scale units for both bicycle and automobile industry. Further, the ratio has shown an improvement of 6.06 percent in case of small scale units and 7.14 percent in case of large scale units for bicycle industry over the last year. The overall industry ratio has shown an improvement of 6.85 percent over the previous year.

The position of return on the capital employed ratio for both industries is given in table 1.14

Table 1.14
Position of Return on Net Capital Employed Ratio for Small and Large Units

Industry	2018	2019	Increase/decrease (Percentage)
Bicycle			
Small Units	9.9	10.5	6.06
Large Units	28	30	7.14
All Units	27.7	29.6	6.85
Automobile			
Small Units	12	10.1	-15.83
Large Units	24.6	16.9	-31.30
All Units	24.2	16.5	-31.81

On the other hand, in case of automobile industry, the ratio has shown a declining trend for both the sectors, that is, in the case of small scale units, the ratio has declined by 15.83 percent and in case of large scale units by 31.30 percent. Consequently, the overall industry ratio has shown a decline of 31.81 percent over the previous year.

(c) **Return on Net Worth**

This ratio is calculated to see the profitability of owners investment. This ratio establishes the relationship between earnings after tax and preference dividend and equity shareholders investment or net worth. It is calculated as

$$\text{Return on Equity Shareholders' Capital employed} = \frac{\text{Earning after Tax \& Pref. Div} \times 100}{\text{Shareholders' Capital Employed}}$$

Table 1.15 shows that the rate of return on net worth is higher in large scale units than the small scale units in case of bicycle industry. However, the ratio has declined by 7.79 percent over the previous year in case of large scale units. While the ratio has shown positive growth of 4.21 percent in case of small scale units. But the overall industry ratio has also shown a negative growth of 7.83 percent over the previous year.

The position of return on net worth ratio for both industries is shown as below:

Table 1.15

Position of Return on Net Worth Ratio for Small and Large Units

Industry	2018	2019	Increase/decrease (Percentage)
Bicycle			
Small Units	9.5	9.9	4.21
Large Units	21.8	20.1	-7.79
All Units	21.7	20.0	-7.83
Automobile			
Small Units	18	11	-38.88
Large Units	3.7	-2.6	-29.72
All Units	4	-2.1	-47.50

On the other hand, in case of automobile industry, the ratio is found to be higher in small scale units than in the large units. But the ratio has shown a declining trend for both sectors, that is, the ratio has declined by 38.88 percent in case of small scale units and by 29.72 percent in large scale units over the last year. The overall industry ratio has shown a decline of 47.50 percent over the previous year.

Thus, it can be said in the end, after analyzing liquidity ratios in case of bicycle industry, the large scale units are better placed than the small scale units. The ratios have also improved in case of large units as compared to small units, over the year 2018 to 2019. Turnover ratios also indicate that the position of large scale units is much better than that of small units. But the ratios have declined in both sectors over the last year. In case of solvency ratios, the position of small scale units is sound than that of large scale units except debt-service ratio. The profitability criteria reveal that large units are more efficient than small scale units. The large units have experienced higher ratios than the small units in all the five ratios. Whereas in case of automobile industry, the small scale units are financially more sound than the large scale units, in case of liquidity ratios. But in large units, the ratios have shown a downward trend. The turnover ratios show that large units are better placed than small units in case of inventory turnover ratios, whereas in case of other two turnover ratios, although the position of small units is better than the large units, but there is marginal difference between the ratios of both these sectors over the period 2018 to 2019. The solvency position of industry reveals that small scale units are more sound than the large scale units. The profitability criteria reveals that the large units are more efficient than the small scale units except the return on net worth ratio which is higher in small scale units.

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