

COST TREND: MEANING AND IMPORTANCE OF COST TREND IN PUBLIC ENTERPRISES

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ABSTRACT	KEYWORDS
<p>The specialization large scale production, international marketing and increasing competition make it necessary not only to keep the cost under control but to reduce the cost to the maximum possible extent. To stand in the keen competition in the international markets makes it very important that the costs of exports are kept at the minimum and uninterrupted and efforts are made to locate new areas of cost control and reduction. At present when the world is moving at a fast rate only those concerns can survive who are continuously striving for improving their efficiency and effectiveness, and adding the value through cost reduction and bettering the product. A proper analysis of cost may enable the management to find sources of waste and cost as-elations. The analysis of cost provides the basic information on the basis of which top management may effectively control and reduce the cost.</p>	<p>Cost Control, International Marketing, Management, Large scale Production</p>

INTRODUCTION

SAIL, BALCD and HZL are three public enterprises selected for the present study. All the selected public enterprises engaged in the production of metal. SAIL produces Iron, BALCD produces aluminium while HZL produces zinc as the basic product. Besides producing the basic product, all these companies are producing a variety of diversified products. In the published financial statements of all the three public enterprises engaged in the metal sector, the details relating to the cost of production of different products have not been given and merely the details of total expenses incurred on all the products produced by the enterprises have been shown. As such, it was not possible to calculate the unit cost of the product. Therefore, to study the cost of various heads of expenses, the head of expenses has been calculated from the total cost. This will provide an idea about the variations in various heads of expenses. The details of various heads of expenses in all the three public enterprises under study have been discussed below. The study of various heads of expenses in the public enterprises under the study will give a meaningful view of inter-firm comparison of cost trends.

RAW MATERIALS

The average proportion of raw materials in SAIL was 33.58 per cent which varied from 30.29 per cent in 2004 to 37.18 per cent in 1996 forming a range of 6.89 per cent. The proportion on the whole marked a varied trend. Compared to 1995 the proportion significantly increased during 1996 from 33.26 per cent to 37.18 per cent. One of the reasons for this increase was steady deterioration in the quality of cooking coal. The directors of the company mentioned this fact in Annual Reports from time to time. Input constraints and interruptions in the supply of power also adversely affected the proportion of raw materials. The directors of the company mentioned in the company's 1996 annual report and accounts that "Input constraints continued to affect production of integrated plants this year as well. These plants could attain 81 per cent of target for ingot steel, 88 per cent for saleable steel and 68 per cent for pig iron. Alloy Steels Plant fulfilled 68 per cent of target. The supplies of basic inputs like power, coal and rail transport projected for meeting targets were not fully available and shortfalls of these made attaining targets difficult.

Explaining the cause of loss in production due to shortage of power, the directors further stated that, "The loss of production of saleable steel suffered by steel plants on account of shortage of power amounted to 430 thousand tonnes, equivalent to 8.3 per cent the total saleable steel production during the year. Rourkela Steel Plant with 239 thousand tonnes alone accounted for 56 per cent of this loss. Bokaro Steel Plant also suffered a production loss of 100 thousand tonnes representing 23 per cent of production loss in SAIL on this account."

The high ash content in the coal was also an important factor which partly increased the proportion of raw materials. The directors of the company in this regard stated that, "The average ash content continued" to be 2 to 3 per cent above the promised level of 20.5 per cent with a high degree of day to day fluctuations. With higher ash content in indigenous coking coal, advantages of 1.33 million tonnes of low ash metallurgical cooking coal imported during the year largely got nullified.

During the year 1997 the proportion of raw material significantly decreased to 34.71 per cent as compared to 37.18 per cent in 1996. The proportion during 1998 again increased slightly as compared to 1997 and it was 35.88 per cent. The proportion during 1999 slightly decreased as it was 34.20 per cent in 2004. The decrease in the proportion was due to improvement in the quality of cooking coal. Regarding the techno-economic parameters the directors of the company stated that, "The Company including the Burnpur Works achieved significant improvements in techno-economic parameters during the year. The overall coke consumption rate in blast furnaces has been brought down by 4 per cent during 1999, thereby effecting a saving in coking coal consumption. There was an improvement of about 5 per cent in the specific consumption of electricity per tonne of saleable steel during 1999 over 1998. The overall energy consumption per tonne of crude steel in SAIL plants has been improved by 6 per cent in 1999. There has been a general improvement in blast productivity over 1998.

The purchase of raw material has been contained at the same level as in 1998 in spite of the increase in the production of hot metal and the crude steel by 11 per cent and 12 per cent respectively. This has been brought about by increased receipts from captive sources and reduction in specific consumption rates.

However, the proportion of raw material during the year 1985-86 was high due to some constraints in production. The directors of the company reported in the annual report of 1999 that, "The hot metal production at the SAIL Plants was affected mainly due to:

The 38 days long illegal strike at the blast furnace department of BSL during April-May, 1999. Borkaro's four blast furnaces operation against the plant of five blast furnaces operation till 22nd December, 1999. Three blast furnaces operation at DSP against the plan for four blast furnaces operation due to delay in the commissioning of blast furnace No. 1 which was down from 6th January, 1998 and was blown in on 17th September, 1999."5 The proportion of raw materials further decreased to 32.52 per cent in 2000, 30.83 per cent in 2001 and 30.29 per cent in 2002. This was due to improved technology adopted by the company. It is suggested that the cooking coal used should be of a good quality. The Government should try to supply adequate electricity to iron and steel companies. The company should continue to make research in order to improve the production performance. In BALCO the proportion of raw materials was on the whole constant. The average proportion was 21.35 per cent which varied in a very small range of 0.94 per cent. The highest proportion was in 2001 being 21.90 per cent which decreased to 20.96 per cent in 2003 which was the lowest for the period of the study. The Directors of the Company mentioned that "Despite the major constraint of inadequate and erratic power supply, concerted efforts were made by your company to improve the consumption and operating parameters, especially during the productivity year 1996." The directors further presented the norms and actual consumption. In the words of the directors; it can be said, "The norms and the consumption of various inputs during 1996 are as under: During 1997 the proportion increased to 21.58 per cent as compared to 20.84 per cent in 1996. However, the proportion during 1998 and 1999 was 21.54 per cent and 21.55 per cent respectively. It decreased to 20.52 per cent in 2000 but sharply increased to 21.90 per cent in 2001. It came down to 20.96 per cent in 2002. It is suggested that the company should keep up the efforts to improve productivity.

Consumption of Various Raw Materials per Tonne of Aluminum produced (1981-82 and 1982-83)

The proportion of raw materials in Hindustan Zinc Limited marked a fluctuating trend throughout the period of the study from 1995 to 192003. The average proportion was 32.37 per cent. The proportion during 1995 was 38.66 per cent which sharply increased in 1996 to 39.62 per cent, the highest for the period of the study. During 1997 to 1999 the proportion continuously decreased and was 34.68 per cent, 30.99 per cent and 29.01 per cent respectively. The decrease in the proportion of raw materials was due to improvement in technology. The chairman of the company mentioned that "The Company is conscious of the role of technology for increasing productivity and, therefore, is taking steps towards up-dating the same."

The improvement in the position of power supply also helped in decreasing the proportion of raw materials. It is suggested that the company should continue the efforts to improve productivity. The proportion during 2000 increased to 33.54 per cent but decreased to 28.33 percent in 2001 and 24.15 per cent in 2002. The company should try to keep up the efforts to reduce the proportion of raw materials.

An inter-firm comparison of the proportion of raw materials in the three metal companies in the public sector showed that the coefficient of range as shown in table 3.1 in the proportion of this expense as the lowest in BALCO followed by HZL and SAIL material decreased in all the companies but the rate of decrease was slow in case of SAIL and BALCO while it was faster in case of HZL. It is therefore, suggested that SAIL and BALCO should also take technological measures to improve the productivity and decrease the proportion of raw materials.

EXCISE DUTY

The proportion of excise duty in SAIL during the period of the study from 1995 to 2002 marked a declining trend except in 1998 and 2002. It formed a range of 3.30 per cent. The highest proportion was 9.37 per cent in 1995 while the lowest was 6.67 per cent in 2001. The average proportion for the period of the study was 7.01 percent. The proportion of excise duty in BALCO was around 14.10 per cent except in 2002, where it was 15.16 per cent and 17.43 per cent respectively. The proportion varied in a range of 5.76 per cent; the lowest being 11.67 per cent in 2000. The excise duty in case of HZL marked an increasing trend.

It was 0.20 per cent in 1995 which increased to 0.21 in 1996, 0.33 in 1998, 0.24 per cent in 1997, finally to 0.39 per cent in 1999. During 2000 to 2002 it was constant to 0.03 per cent. The average proportion was 0.18 percent. During the period of the study it formed a range of 0.36 per cent. The coefficient of range of excise duty was the highest in case of HZL followed by SAIL and BALCO. On the whole BALCO contributed the highest per cent of excise duty. It shows that the burden of excise duty on aluminium is the highest. It is, therefore, suggested that the Government should try to reduce the burden of excise duty on aluminium. It will help improve the production and sales performance of aluminium companies.

SALARIES AND WAGES

In SAIL the proportion of salaries and wages marked a fluctuating trend during the period of the study. It was 13.61 per cent in 1995 which increased to 14.06 per cent during 1996 and 15.41 per cent during 1997. The directors of the company mentioned that, there were some problems, however, due to politically motivated bands in the plants situated in the state of West Bengal. The loss of man days this year due to the problems related to industrial relations was insignificant as in the previous year but further as many as 18,674 man days were lost due to political bandhs. During 1998 and 1999 the proportion continuously decreased and it was 14.01 per cent and 13.13 per cent respectively. This was due to management's efforts to increase labor productivity. The directors stated that, "Considerable success has been achieved in controlling demurrage, overtime and eliminating shift change-over delays from key areas. Discipline has been tightened and steps taken to control absenteeism and improve work practices."¹⁰ SAIL introduced new ways and means to manage personnel problems. The directors mentioned that, "There was a changed approach in the management of industrial relations. Instead of monitoring indices of man days/salable steel losses, focus was on building a new work culture by obtaining the participation of large groups of employees/ association and trade unions. Attention was focused on Systems of collective bargaining and conflict resolution. There was a greater and more fruitful interaction with the trade unions at the NJCS and production and Productivity Forum."¹¹ The proportion during 2002 decreased and was 12.51 per cent, being the lowest for the period of study.

The proportion of salaries and wages in BALCO during the period of the study from 1995 to 2002 marked a declining trend except in 1999. The proportion was 9.28 in 1995 which decreased to 9.24 per cent in 1996. The company maintained good industrial relations with workers and motivated them to improve productivity. The directors of the company mentioned that. The industrial relations during the year under review remained cordial and peaceful. With a view to improving productivity, a motivational incentive scheme based on Industrial Engineering Studies has been introduced at Korba Complex from November, 1984 after the approval from the government with the government and agreement with the Representative Union."¹²

The Proportion during 1999 increased as compound to 1998 but still it was lower than what it was in 1995 and 1996. The directors of the company mentioned that, "With the cooperation of the workmen, about 96.5% capacity utilization could be achieved during this year."¹³. The proportion during 2000 to 2002 marked an Increasing trend and was 8.42 per cent in 1988-89.

In HZL the proportion of salaries and wages continuously marked an increasing trend throughout the period of the study from 1995 to 2002. It was 16.25 per cent in 1995 which increased to 17.66 per cent in 1996, 17.67 per cent in 1997, 18.77 per cent in 1998 and finally to 19.00 per cent in 1999. The proportion during 2000 was 18.60 per cent which increased to 21.71 per cent in 2001 which it decreased to 18.38 per cent in 2002. The average proportion was 18.69 per cent. The increase in the proportion was due to good facilities and higher emoluments paid to employees. The number of employee in the company also increased. The directors mentioned that, "The manpower employed in your Company at the end of 1999 as compared to stood at 11,568 at compared to 11,358 at the same time last year."

The industrial relations in this concern throughout the study period were cordial. The directors of the company mentioned that, "Healthy and harmonious industrial relations are essential for optimum organizations performance. Company's industrial relations approach is characterized by:

Participative management whereby tasks are sought to be accomplished on the basis of shared responsibility and mutual co- operation are given below:

A air and enlightened collective bargaining system

A sensitive and prompt grievance redressal system

Progressive personnel policies and their fair, just and objective implementation

As a result of the above integrated systems approach, your company has been able to maintain stable industrial relations and industrial peace in most of its eight mining and smelting units.

A comparison of coefficient of range showed that the proportion was the lowest in case of BALCO followed by SAIL and HZL. However, the proportion was the highest in case of HZL.

The Proportion of power and fuel in SAIL throughout the period of the study from 1995 to 2002 marked an increasing trend with an average of 10.28 per cent. The proportion was 7.53 per cent in 1995 which increased to 7.82 per cent in 1996 per cent in 1997, 8.68 per cent in 1998 .and 13.62 per cent in 2002. It formed a range of 5.65 per cent. The directors of the company reported some mis happening in captive power unit. According to them, "Due to fire incident in Bokaro captive Plant on 10th/11th July, 2000, the unit No.1 which was commissioned December, 1985 and was under performance guarantee trial run has become non- operational.¹⁶

The proportion of power and fuel in BALC during the period of the study from 1995 to 2002 marked an increasing trend with an average of 10.28 per cent. The proportion was 7.63 per cent in 1995 which increased to 7.82 per cent in 1996, 8.15 per cent in 1997, 8.68 percent in 1998 and 3.62 per cent in 2002. It formed a range of 5.65 per cent. The directors of the company reported some mis happening in captive power unit. According to them, "Due to fire incident in Bokaro captive plant on 10th/11th July, 1986, the units No.1 which was commissioned in December, 1985 and was under performance guarantee trial run has become non- operational. The proportion of power and fuel in BALCO during the period of the study from 1995 to 2002 continuously marked an increasing trend. The average proportion was 26.76 per cent. It was 31.51 per cent in 1995 which increased to 33.24 per cent in 1996. This increase was in spite of preventive measures taken by the company. The directors of the company started that, "Consumption of electricity is a major input in the production of aluminium and constitutes

about 40 per cent of the cost of production. With a view to achieving reduction in energy consumption in the smelter, the following steps have been taken by your company:-

The introduction of the scheme of computerized control of cell voltage through installation of Automatic Voltage Controller in the power supply system of the smelter complex; this helps in controlling the operational conditions of the cells and reduction in electric energy consumption through on-line control of cell voltage; and

The project of the 'Study on the use of Lithium Carbonate in pot-lines' has been undertaken under S & T Plan. The reported advantages in the operation of the smelter with Lithium modified bath Technology are Improvement in the current efficiency up to 3 per cent. Reduction in the power consumption by 4 per cent to 7 per cent Increase input amperage by about 10 per cent, Decrease in fluoride emissions by 20 per cent – 50 per cent, significant reduction in carbon consumption.

The increase in the proportion of power and fuel during 1996 was due to teething troubles faced by the company. During 1998 the proportion of power and fuel again increased to 34.25 per cent. The increasing trend continued as the proportion was 43.94 per cent in 2000 and 32.84 per cent in 2002. "The increase was due to enhanced power tariff (ii) levy of electricity duty Cess from 1st March, 1996 and (iii) imposition of Electricity Duty. The proportion of power and fuel in HZL during the period of the study from 1995 to 2002 marked an increasing. The average proportion was 16.88 per cent. In 1995 the proportion was 11.62 per cent which increased to 13.74 per cent in 1996 and further to 16.78 per cent in 1997. The directors of the company mentioned that, "In Bihar" power supply from SSEB continued to be erratic. The continuity of operations at Tundoo Smelter was maintained with the operation of DG Sets. The target of the production achieved was 7,272 tones of lead metal. The production corresponds to 91 per cent of capacity utilisation. In 1998 the proportion decreased slightly and was 15.95 per cent. Still this was higher than what it was in 1995 and 1996. In the annual report of the company the director mentioned that, "The Power availability in Rajasthan State vis-a-vis demand was less than that of the preceding year. However, with the intensive follow up by the Company, assistance from the Ministry of Steel, Mines and Coal, Government of India, and co-operative attitude of state Government/Electricity Board, the company's Rajasthan based units did get priority in allocation-still the power during the year was lower than the preceding year as reflected in table Tat Tundoo Lead Smelter, Bihar, the power position continued to be irregular with 1833 power interruptions of about 1245 hours duration. D.G. Sets were operated almost throughout the year to offset the harmful effect on operations due to erratic power.

At Sargipali Mine, power confirmed to be erratic with 375 interruptions of about 250 hours' duration and restrictions, particularly during peak hours in the evening since February, 1999, affecting stabilisation of the newly commissioned mines and beneficiation plant."

The proportion during 1999 increased sharply as it was 19.09 per cent, study. It was 18.01 per cent in 2000, 18.75 per cent in 2001 and 21.16 per cent in 2002. The director mentioned that, " At director mentioned that,

"At Tundoo Lead Smelter, the power supply position continued to be erratic with 1,760 interruptions of about 400 hours' duration, necessitating the operation of DG Sets throughout the year to maintain the higher level of production. During the year, an extra feeder- has been taken from Ganeshpur substation of BSEB to improve availability of power from the grid. Its effect is likely to be felt during the current year.

The power supply was erratic at Sargipali Mine with 387 interruptions of about 196 hours' duration affecting mining and beneficiation operations. The company has installed a DG set to set to partially overcome the problem created by erratic power supply.

To augment the shortfall in power from the grid in Rajasthan based units, the company has taken several steps. The possibility of supplying power from neighboring states was explored but looking to the technical to the technical problems in transfer of power to the state grid, as informed by RSEB and the assurance given by the State Government and RSEB to meet the full requirement of the Company's Rajasthan based units, barring exceptional circumstances, the proposal present is not being pursued." The company took remedial steps and the directors mentioned that, "The Company has also been vigorously exploring the possibility of getting addition power from NTPC plants under central reserve quota, through RSEB, for exclusive use of HZL.

The company plans to install power generation capacity of about 15 MW at Debari Zinc Smelter to augment power supply from the grid, in a phased manner. Steps have been taken to install one 5 MW set immediately, followed by two more sets. An inter-firm comparison of the proportion of power and fuel of the public enterprises under study showed that the coefficient of range was the highest in case of HZL being 0.29 followed by SAIL being 0.26 BLACO and being 0.76 roles in Aluminium followed by Zinc and Steel. It is, therefore, suggested that Government should give some subsidy to aluminium, companies so as to reduce cost of the metal.

OTHER FACTORY EXPENSES

The proportion of other factory expenses in SAIL throughout the period of the study from (1995 to 1997) marked an increasing trend except in 1996. The proportion in 1995 was 18.69 per cent which slightly decreased to 18.47 per cent in 1996. The proportion fluctuated during the last three years from 2000 to 2002 and was 24.00 percent, 23.93 per cent and 24.72 per cent respectively. The average proportion was 22.10 per cent. The proportions during the study period varied in a range of 6.04 per cent. Commenting on the selling price, the directors explained some areas of cost escalation. According to them, "We did not seek increase in the selling prices of steel in spite of the following cost escalations: Cass on coal at pit-head value increased by Bihar Government from 20 percent to 30 per cent from 21st June, 1999

Inward freight increased from 15th April, 1999 under the Railway Budget

Revision in Power tariffs by the various State Electricity Boards

Reclassification of cola for freight purposes by Railways from 1st October, 1999

Administration price of coal revised upwards by Rs.32 per tone from 8th January, 2000

Other escalations in the prices of Ferro-alloys petroleum products

Higher dearness allowances.

However some constraints in production also adversely affected the factory express. According to the directors of the company, "The hot metal production at the SAIL Plants was affected mainly due to:

The 38 day long illegal strike at the blast furnace department of BSL during April-May, 1999

Bokaro's four blast furnaces operation against the plan of five blast furnaces operation till 22nd December, 1999

Three blast furnaces operation at DSP against the plan for four blast furnaces operation due to delay in the commissioning of blast furnace No.1 which was down from 6th January, 1998 and was blown in an 17th September, in BALCO the proportion of other factor expenses during the period of the study

from 1995 to 2002 marked an increasing trend especially during the earlier period of the study while during the later years of the study it marked a decreasing trend. The proportion was 16.46 per cent in 1995 which increased to 17.59 per cent in 1996 and further to 18.36 per cent in 1997. The production, during this year was affected adversely due to the constraints of erratic and interrupted power supply. This adversely affected other factory expenses. During 1998 and 1999 the proportion considerably decreased and was 15.33 per cent and 12.75 per cent respectively. It was 11.45 per cent in 2000 10.05 per cent in 2001 and 15.25 per cent in 2002. The average proportion was 14.65 per cent and the range was 8.31 per cent.

The proportion of other factory expenses in HZL factory expenses in fluctuated from year to year throughout the period of the study from 1995 to 2002. It was 31.74 per cent in 1995 which decreased to 27.23 per cent in 1996 while during 1997 and 1998 it increased to 29.07 per cent and 32.78 per cent respectively. However, during 2002 the proportion sharply increased and was 34.06 per cent. The average proportion was 31.09 per cent and the range was 10.55 per cent.

ADMINISTRATIVE EXPENSES

The proportion of administrative expenses in SAIL marked a fluctuating trend during the period of the study (from 1995 to 2002). It fluctuated in a range of 7.08 with an average of 6.72 per cent. The proportion was 11.87 per cent in 1995 which decreased during 1996 and 1997 and was 9.46 per cent and 5.88 per cent respectively. The proportion during 1998 increased and was 6.17 per cent while during 1999 it slightly decreased to 5.94 per cent. It was 5.33 per cent 2002.

The proportion of these expenses in BALCO also fluctuated from year to year. The average proportion was 3.66 per cent while the range was 1.40 per cent. The proportion was 2.96 per cent in 1995 which increased to 3.53 per cent in 1996 and 4.36 per cent in 1997. The proportion during 1998 decreased and it was 3.58 per cent while it increased to 3.98 per cent during 2002. In HZL the proportion was very low and from 0.3 per cent to 0.6 per cent. The average proportion was 0.4 per cent.

A comparison of these expenses of the three companies under the study revealed that in SAIL it was very significant and was the highest. The coefficient of range was also the highest in this concern. It is, therefore, suggested that SAIL should control this item of expenditure.

Selling and Distribution Expenses

The proportion of selling and distribution expenses in SAIL during the period of the study (from 1995 to 2002) varied from 5.21 per cent in 1995 to 7.57 per cent in 1997. It formed a range of 2.36 per cent and average of 6.23 per cent. The proportion during 1995 was 5.57 per cent which slightly decreased to 5.21 per cent in 1996. However, the proportion sharply increased to 7.57 per cent while it again increased to 7.01 per cent in 2002. The proportion of these expenses was the highest in this concern as compared to all other companies under the study.

The proportion of selling and distribution Expenses in BALCO during the period of the study from 1995 to 2002 varied in a range of 0.85 per cent, the highest being 4.58 per cent in 1995 while the lowest being 0.73 per cent in 2000. The proportion of these expenses throughout the period of the study marked a fluctuating trend and was the lowest of all the companies under study. It was 1.58 per cent in 1995 and 1.12 per cent in 2002.

In HZL the proportion of selling and distribution expenses varied in a range of 0.73 percent. it was 1.48 percent 1995 and 1996 which increased to 1.51 per cent in 1997 however it was only 1.13 per cent in 1998 and 1.19 per cent in 2002.

The proportion of this expenditure was the highest in SAIL followed by HZL and BALCO. The coefficient of range was the highest in BALCO being 0.36 followed by HZL being 0.24 and SAIL being 0.18. In absolute percentage the proportion of the- expenditure was very significant in SAIL. Therefore, it is suggested that SAIL should try to reduce the proportion of this expenditure.

CONCLUSION

The above study of the proportion of various expenses in different companies suggested that the cost of the companies under study were adversely affected by power cuts and labor disturbances. However, the non-availability of the good quality of raw materials and coking coal in case of iron and steel also adversely affected the costs. It is therefore suggested that government should make available adequate power and the management should establish good personnel relations and control the quality of raw materials.

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