An analytical Marginal cost study of TATA Steel

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Abstract:

The concept of marginal cost is based on the variable cost and fixed cost of the production. Variable expenses depend on sales and production of the company, when fixed cost is periodic cost. Marginal cost is increase or decrease in cost to produce of a unit after certain production units. Generally, marginal costing depends on the contribution, where contribution is the difference between the sales and the variable cost of the production. The company's contribution is more than its fixed cost as it is more profitable.

Keyword: Profit-volume, Fixed cost, Variable cost, Break-even, Margin of safety.

An Analytical Marginal cost study of Tata Steel.

Objectives:

Following are the objectives of the study:

1. To examine Profit-volume ratio, Break-even point and Margin of safety of Tata Steel.
2. To study the progress of Tata Steel.
3. To evaluate Marginal cost and Profitability of Tata Steel.

Duration:

The study is for the period of five years from 1st April, 2012 to 31st March, 2017. (2012-13 to 2016-17)

Types of Data:

These data collected from the annual reports and website of Tata Steel.

Introduction:-

Fixed costs and variable costs are borne in the production, while in marginal costing, variable costing is only consideration. It is believed that fixed costs remain stayed and it is not affected of fluctuation like increase decrease in production. In marginal costing, variable costs are considered; therefore it is called variable or marginal costing.

Marginal costing first used in 20th century and it has been popular in Industries in result of its usefulness.

Marginal costing is a technique which studies the influence of product fluctuations on its cost.

After some units produced, all fixed costs are covered. So only variable costs are to be paid out.

Marginal costs:-

Meaning:-

- "Marginal costing is a technique in which fixed cost is set off against total contributing and variable cost is set off against units"

Assumptions:- (Suppositions)

- Managers use marginal costing as a technique to decision making in managerial practice.
  However, this technique of costing depends on below assumption.

(1) In this method, there is such an assumption that total cost can be classified into two kinds fixed cost and variable cost.

(2) It is assumed that variable cost increase and decrease against change in production. It, therefore, means variable cost increases if production increases. Just variable cost remains steady per unit.

(3) It is assumed that fixed costs are steady against fluctuation of production units. It means there is no influence on fixed cost either production units changed.

(4) Market price (Selling price) is not changed due to change of production or market scenario.

(5) In this method, it is assumed that only variable cost is taken into consideration in production cost whereas fixed costs are recovered or absorbed from contribution (profit and loss).

(6) This technique assumes that other conditions are also not changed. E.g., materials, Labour, Efficiency, Wastage loss, managerial policy and competition level etc.

Importance (Applications/Uses):-

(Significance or usefulness of marginal costing)

(1) Easy:-

In this method calculation is very easy and understandable. Cost is found is only considering variable cost is therefore easy.

(2) Profit Planning:-

Another importance application of marginal costing is the area of profit planning. Profit planning, generally known as budget or plan of operation may be defined as the planning of future operations to attain a defined profit good.

(3) Cost control:-

Fixed cost remains same with production while variable cost can be appropriately controlled and therefore cost can be control.

(4) For Decision making:-

This technique is very applicable for decision making for managers. It is useful to select an appropriate choice from various best choices relating to production and profit of the organization.

(a) Make or Buy:-

Some loose parts used in production of a firm, make or buy in the organization is decided through marginal costing.

(b) Foreign order:-

Marginal costing is also useful to either take foreign order for certain products to the factory or not.

(c) Key Factor:-

Marginal costing is also useful to decide how many units of a certain product to produce where there is a scarcity of either materials or labour and also machine hours.

(d) Production options:- (Choice)

Marginal costing is also applicable to decide to produce a profitable product out of various production choices.

(e) For Differentiate cost:-

In the factory from different levels of production, which volume of production is profitable one is easily decided. Flexible budget about different units is also prepared with application of marginal costing.

(5) In Inflation time:-

In Inflation time, maximum profit can be made by maximum production and selling. In these circumstances, Marginal costing helps in deciding an actual level of production at which optimum profit can be earned.

(6) In Deflation time:-

In Deflation time, maximum loss may arise. So marginal costing helps in deciding the actual level of production and selling of products at which no loss assume.

Important Formulas:-

- The below formula are used in Break-even analysis :

(1) Contribution = selling price – Variable costs

$C = S - V$

(2) Profit Volume Ratio:- (P/v Ratio) $= \frac{\text{Contribution}}{\text{Sellingprice}} \times 100$

$$P.V.R = \frac{C}{S} \times 100$$

(3) Break-even point:- (B.E.P.)

(A) (in units) B.E.P $= \frac{\text{Fixed Costs}}{\text{Contriution per unit}}$

$$B.E.P = \frac{F}{C}$$

(B) B.E.P (in `) $= \frac{F}{PVR}$

(4) Margin of Safety:-

(A) M/s (in ` and in units)

= Actual sales – B.E. sales

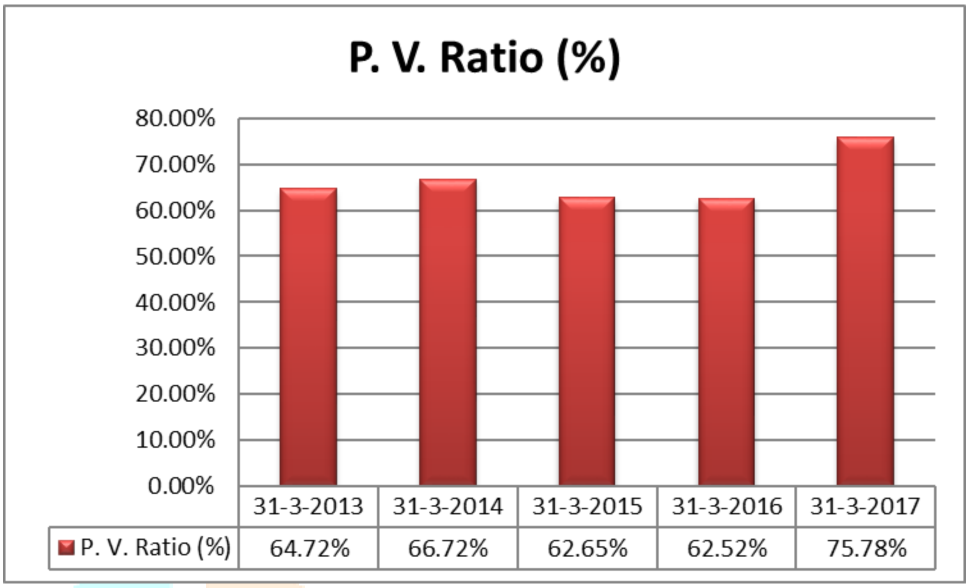
$M/s = S_A - S_B$

Income statements of TATA Steel for the years ended 31-3-2013, 31-3-2014, 31-3-2015, 31-3-2016 and 31-3-2017 (Rs. in crore)

Particulars P	31-3-2013	31-3-2014	31-3-2015	31-3-2016	31-3-2017
Sales	42,320	46,310	46,580	42,690	53,260
- Variable exp.	14,930	15,410	17,400	16,000	12,900
Contribution	27,390	30,900	29,180	26,690	40,360
- Fixed exp.	12,545	13,635	15,115	14,855	18,435
Operating Profit	14,845	17,265	14,065	11,835	21,925

Profit-volume ratio:

Particulars	31-3-2013	31-3-2014	31-3-2015	31-3-2016	31-3-2017
P. V. Ratio (%)	64.72%	66.72%	62.65%	62.52%	75.78%

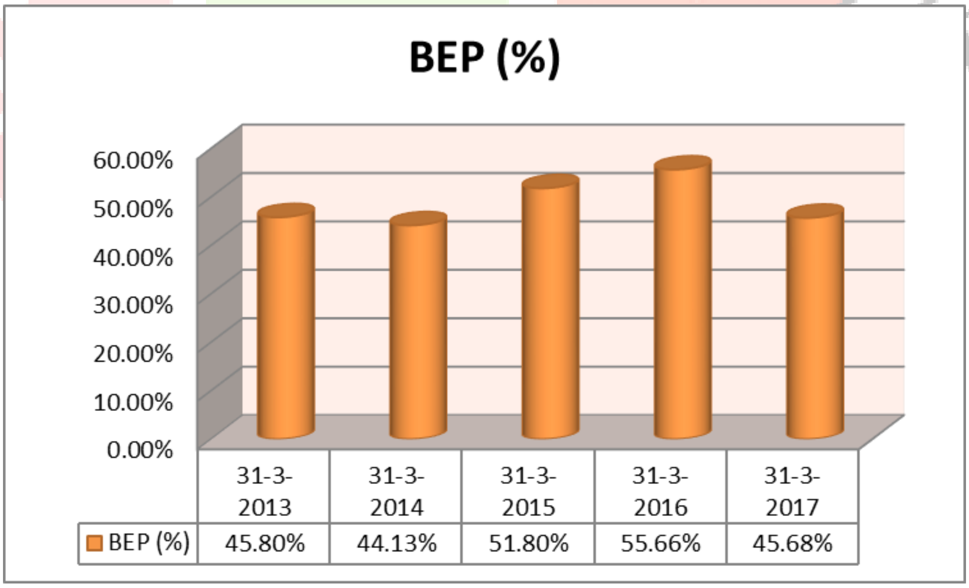


Analysis:

The PVR (Profit Volume Ratio) of the company is increasing for first two years (2012-13 and 2013-14) and then decreasing in the year ending 31-3-2015 and 31-3-2016. But in the year ending 31-3-2017 the highest level of PVR is seen. In accordance with the year ending 31st March, 2013 the PVR of the company is 64.72% and in the year 31st March, 2014 we observe an increase in PVR to 66.72%. But, in the years ending 31-3-2015 and 31-3-2016 the PVR of the company are decreases 62.65% and 62.52% respectively. And in the year ending 31-3-2017 the PVR of the company is highest 75.78%.

Break-even point:

Particulars	31-3-2013	31-3-2014	31-3-2015	31-3-2016	31-3-2017
BEP (Rs.)	19,383	20,436	24,126	23,760	24,327
BEP (%)	45.80%	44.13%	51.80%	55.66%	45.68%

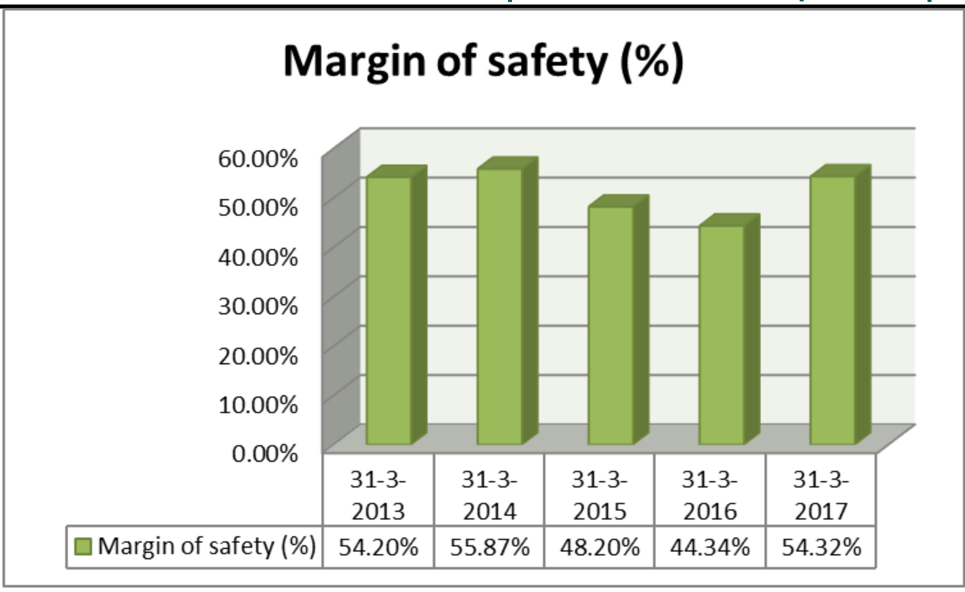


Analysis:

The BEP (Break-even Point) in accordance to sales is decreasing in first two years 45.80% and 44.13% respectively. But in the year ending 31st March 2015 and 31st March 2017 major change in the BEP is observed to 51.80% and 55.66%. And in the year ending 31st March 2017 again it decreases to 45.68%.

Margin of safety:

Particulars	31-3-2013	31-3-2014	31-3-2015	31-3-2016	31-3-2017
Margin of safety	22,937	25,874	22,454	18,930	28,933
Margin of safety (%)	54.20%	55.87%	48.20%	44.34%	54.32%



Analysis:-

A constant fluctuate in Margin of safety is observed from the year ending 31st March, 2013 to 2015. A slight increase is observed in the year ending 31st March, 2014. But again the Margin of safety tends to decline in the year ending 31st March, 2015 and 31st March 2016. In the year ending 31st March, 2017 the increase in Margin of safety is measured due to decrease in Break-even point in accordance to sales.

Findings:-

Though the Margin of safety of the company is found to be fluctuating year by year, the Profit Volume Ratio is also fluctuating. Hence, it can be said that the overall position of the company is improving year by year as the PVR is increasing except the years 2014-15 and 2015-16.

Suggestion:-

From the above study company should improve their workings and it should be try to reduce fixed cost. Company can get more contribution and high level of PVR to decreasing in variable cost or increasing in sales. On the other hand, company can also get more profitability to decreasing in fixed cost.

Limitations:-

- The data taken here of Tata Steel is limited to last five financial years only.
- The point of view of analyzing the above data by us and by the company may vary.
- The data may not be useful in studying any other year except the above listed five financial years i.e. 31st March, 2013, 2014, 2015, 2016 and 2017.
- The point considered by us as negative one may be the positive one from the view point of company.

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	Shri. S. G. Vahora got the B.ed. degree from Gujarat university in 2005 and M.Com degree in Cost accountancy from Gujarat university in 2001 and B. Com. in 1999 from S. P. University. He wrote 45 books as main author with ISBN and 25 books as an editor. He also passed Australian Taxation and Company law from Curtin University, Australia in 2006. Recently he passed G Set and NET exam in 2017.