Labour productivity is generally speaking held to be the same as the "average product of labour" (average output per worker or per worker hour, an output which could be measured in physical terms or in price terms).

It is not the same as the marginal product of labour, which refers to the increase in output, which results from a corresponding increase in labour input.

A popular concept of the productivity is getting more and more work from less and less people. Productivity is taken to mean the productivity of labour measured directly by quantity and economy of output per worker or small group of workers. This concept rests on a very popular belief that by increasing labour productivity, production costs can be reduced leading to corresponding rise in profits. Another reason is that man-hours and number of worker are more readily measurable than other input factors and that they possess a universal element common to all plants, processes and industries.

**MEASUREMENT OF LABOUR INPUT:**

Man-hours worked is obviously a more precise measure of labour rather than the number of persons
employed (Since average man-hours per person may differ from year to year) but we can not use man-hours figure supplied by the units. During the personal survey due to the serious limitations as man-hours were estimated by the multiplication of the number of production workers and number of hours of the shift. Which is constant of 8 hours? Since the shift is not constant of 8 hours due to the power cut etc., the figure of man-hours is not a measure of the actual time spent in production process. Due to these limitations, we have only used the employment as well as men-days as the labour input.

Data on the number of worker have been collected separately for all persons employees. Data include workers directly employed by factories and contract workers as well as persons other than workers. Since the number of the contract workers was little in comparison to the total employment and their share was negligible in relation to the total wage bill, we have excluded the contract workers from an estimation of labour input.

**MEASUREMENT OF OUTPUT:**

The term gross output refers to ex-factory value of products and byproducts manufactured during the year including fixed assets of factory's own use, manufactured products lost by theft or damage or destroyed by fire etc.,
semi-finished products made earlier but ready for sale during the year. Products made over to other concerns under the same ownership and control as also final, for own use as goods in the factory being distinct from intermediate product and machinery, the capital items produced for factory's own use. The value being adopted as in the factory's capital account and the value of the work done for other firms by the industry. It excludes products made ready for sale in any earlier year but sold during the year and those made during the year but consumed for further manufacture in factory. Ex factory value is to be determined by deducting distribution expenses i.e. discount, rebates carriage outward, selling commission, excise duty and sales tax etc.

Data on quantities of different item produced in 1990-91 and subsequent years are obtained by personal survey as well as from the balance sheets of the factories and multiplied by respective price in 1990-91 which is obtained by dividing the value of each item by its quantity as in 1990-91 and so on.

Gross value added is obtained by deducting the value of raw materials fuel and power, cost of transportation of materials to the factory, commission to purchasing agents and the amount paid to other concerns for work done for factory. As well as changes in the stock and finished parts and
products manufactured earlier but used for further manufacturing in the factory. For the purpose of estimating gross value added at constant prices both the value of output and of materials fuel and power and authorities consumed is generally deflated by their respective price indices and the difference is taken as a measure of gross value added (Net distributable output) at constant price.
PRODUCTIVITY TRENDS:-

In this section, an attempt was made to measure and compare labour productivity in SAIL and TISCO. It is based on net distributable output. It is the increase of the amount available for distribution between labour and capital in the industry at constant price and is related only to labour and capital input under the condition that changes in raw material prices are exactly equal to the changes in the prices of output.

In these tables, we present data on labour productivity and growth of labour productivity. Labour productivity is the ratio of GVA at constant price to total employees or labour. Our analysis, so far indicates that there are some major changes in the labour productivity of SAIL and TISCO.

In **1990-91**, the labour productivity of SAIL was only 1.559, whether in TISCO it was 4.727.

In **1991-92** – The labour productivity of SAIL was 1.709 while in TISCO. It was 5.405, the growth of labour productivity of SAIL in 1991-92 was 9.60 percent and in TISCO, it was 14.35 percent.

In **1992-93**, Labour productivity again increased and it became 1.791 in SAIL, and 5.286 in TISCO. Percentage growth of labour productivity in SAIL was 4.79, while it became negative at −2.19 percent in TISCO.
In **1993-94**, there was an increase in labour productivity at SAIL, it became 1.814 and the percentage growth of labour productivity was 1.32. In TISCO, there was decrease in labour productivity it because 5.231 with negative growth of –1.03 percent in 1993-94.

In **1994-95**, there was a dramatic change in both the companies, SAIL and TISCO. There was an upward shifting in labour productivity of the both SAIL and TISCO. The labour productivity of SAIL was 2.006 with the percentage growth of 10.54. While the labour productivity of TISCO, were 6.229 with the percentage change of 19.06 in 1994-95.

In **1995-96**, the situation was almost same the labour productivity of SAIL was 2.126 with the percentage growth at 6.01 and the labour productivity of TISCO was 7.825 with the percentage growth of 25.61.

In **1996-97**, the situation of labour productivity became critical in SAIL the labour productivity became down to 2.002 with the negative growth of –5.83 at labour productivity while in TISCO the situation of labour productivity in TISCO became favourable, labour productivity became 8.636 with a positive growth of 10.37 percent in year 1996-97.
In 1997-98, there was an upward movement in the labour productivity of both SAIL and TISCO. Labour productivity of SAIL became 2.101 with an increase at 4.94 percent from last year while in TISCO, the labour productivity became 9.502 from 8.636 in 1996-97 with an increase of 10.02 percent from last year.

In 1998-99, the situation of labour productivity of SAIL was not so pleasant it became 1.814 from 2.101 with a decrease of 13.64 percent from last year. In 1998-99, the labour productivity of TISCO became 9.956 with an increase of 4.77 percent from last year 1997-98.

In 1999-2000, there was an improvement in both the companies SAIL and TISCO. The labour productivity of SAIL became 2.098 from 1.814 in 1998-99 with an increase of 15.64 percent from last year 1998-99 while the labour productivity of TISCO became 12.189 in 1999-2000 from 9.956 in 1998-99 with an increase of 22.42 percent of growth.

2000-01, was a golden year for both the sectors public and private, in public sector, the labour productivity of SAIL became 2.532 with a huge improvement in the growth at labour productivity, the percentage growth of labour productivity of SAIL in 2000-01 was 20.67. On the other hand, TISCO, the largest producer of steel in private sector
the labour productivity of TISCO became 14.299 with an increase of 17.30 percentage of growth of labour productivity from last year i.e. 1999-2000.

In **2001-02** there was a drastically change in the labour productivity of SAIL the labour productivity decrease from 2.532 to 2.254 with a negative growth rate of –11.00 percent in the year 2001-02 while on the other hand the labour productivity of TISCO became 14.971 with a positive percentage of growth of 4.70 in the year 2001-02.

Year **2002-03** was again a golden year for both, SAIL and TISCO, due to heavy increase in gross value added and a heavy decrease in the number of employees, the situation of labour productivity should a reform in SAIL and TISCO. The labour productivity of SAIL became 3.050 from 2.254 in 2001-02 with a heavy growth of 35.33 percent in the year 2002-03 while in the TISCO the labour productivity also increased from 14.971 in 2001-02 to 20.105 in 2002-03, with the increase of 34.29 percent per annum in the year 2002-03.

In **2003-2004**, the last year of our study, there was again an improvement in the labour productivity of both the companies SAIL and TISCO. The reason behind that was both of the companies continued voluntary retirement scheme and their emphasis was on cost cutting, that why the value of
gross value added of both companies increased, and number of employees decreased. Consequently, the labour productivity of both the companies increased. The labour productivity of SAIL became 4.553, with a huge positive growth of 49.26 percent from 2002-03, while in the private sector company TISCO the situation is almost same there was also an improvement in labour productivity. The labour productivity of TISCO became 26.207; the percentage growth of labour productivity was 30.35 in the year 2003-04.