

A STUDY ON PRODUCTIVITY IN LANCO INDUSTRY AT SRIKALAHASTI

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ABSTRACT

The backbone of any country is the manufacturing sector. Manufacturing sector helps in maintain growth, productivity, employment, stronger agriculture and service sectors. Manufacturing segment of India is a crucial cog in the wheel of economic progress and the sector's contribution to the gross domestic product (GDP) being 16 per cent. The Indian manufacturing sector is the mainstay of entire Indian industry. Productivity is a major source of competitiveness and economic growth and also it helps in assessing countries performance and providing statistical information for many international comparisons. For instance, productivity data is used in investigating the impact of product and labour market regulations on economic performance. The context of standards of living can be related to labour productivity and economic growth. How is productivity associated to per-capita income growth or standards of living? In this connection, we need to make the links between the production side of the economy and the way in which production determines income. The given supply of labour and capital can rise income from either (a) the value of the good produced has increased or (b) because the productivity of those factors has risen. Higher productivity means the more goods and services can be derived from the same factor inputs. Though the productive has been fluctuating in the year 2008-09 (96.8 million tonnes) and 2014-15 (102.73 million tonnes) the productivity has shown a gradual rise in the other years. By the end of 2015-16 the productivity of cement is 118.86 million tones. In the case of labour productivity for Lanco Industry, this unit being wages, raw materials cost, transportation cost as well as other costs are so high. This has also been the external happening affect along with the market environment international markets affects as well as the government policies, high taxes, duties and competition with the tiger like economy China and Australia. Thus duet extend and internal aspects shows low growth rate to the extent of 95.57 percent.

Key Words: *Productivity, Raw Materials Cost, Transportation Cost, Capacity, Investment.*

INTRODUCTION

Productivity is commonly defined as a ratio between the quantity of output and quantity of inputs. The production inputs i.e. labour and capital is measured by productivity that is used to produce a given level of output in an economy. Productivity is a major source of competitiveness and economic growth and also it helps in assessing countries performance and providing statistical information for many international comparisons. For instance, productivity data is used in investigating the impact of product and labour market regulations on economic performance. An important element for modeling the productive capacity of economies is determined by productivity growth. It helps in determining capacity utilization, which in turn measures the position of economies in the business cycle to forecast economic growth. It helps in assessing demand and inflationary pressures.

The choice between different measures of productivity depends either on the purpose of the productivity measurement or data availability. Gross domestic product per hour worked is most widely used measures of productivity. Productivity measures the use of labour inputs better than just output per employee. Organization for Economic Cooperation and Development (OECD), Annual National Accounts database is the default source for total hours worked, though for a number of countries other sources have to be used. In spite, of the progress and efforts in this area, the measurement of hours worked still suffers from a number of statistical problems. International comparability is hindered by different concepts and basic statistical sources used across countries. The workers educational attainment, skills and experience is taken into consideration to measure the labour inputs. The OECD has to start to develop labour input measures according to it.

When we check the role of capital inputs, a correct measure is the flow of productive services that can be taken from the cumulative stock of past investment (such as machinery and equipment). OECD estimates the services using the rate of change of the productive capital stock which includes wear and tear, retirements and other sources of reduction in the productive capacity of fixed capital assets. The rental price is the price of capital services per asset. Rental price is directly observed if markets exist for all capital service. In practice, Rental prices have to be attributed for most assets, using the implicit rent that capital goods, owners “pay” to themselves (or the ‘user costs of capital’).

The multifactor productivity is derived after computing the contributions of labour and capital to output. The rate of change in the services of labour, capital and intermediate outputs can't be explained and measured by

the residual growth and the factors like technical and organizational innovation is often interpreted as the contribution to economic growth.

The efficiency with which output is produced by the resources utilized is interpreted by productivity. Productivity is generally defined as the ratio relating to output to one or more of the inputs, which are associated with that output. According to Mark (1972), productivity is the expression of the physical or real quantities of inputs. The real volume of goods and services are measured by relating changes in productivity. The concept of productivity and related measures can be broadly divided into two classes. One can express productivity as the relationship of output of a producing enterprise, industry, or economy to one type of input such as labour, capital, energy, etc. For others productivity is the relationship of output to a combination of inputs extending to a weighted aggregate of all associated inputs.

There are several productivity measures. The labour productivity is most frequently developed and perhaps the most useful one is an output per unit of labour input measure. The labour is almost universally required for carrying through all types of production. In almost all Endeavors', the labour element costs and the degree vary, but it is always present. Apart from this labour is the most important and measurable input. Capital, materials are much more difficult to quantify like other factors.

Depending on the definition of labour input, there are various labour productivity measures. One measure to output per person and other is an output per man hour measure. The definition of productivity as output per man-hour has its economic significance in productivity as it is centered on its key role in the wage cost-price relationship. The compensation paid per man hour and output produced per man hour is not affected by the labour cost per unit of output. The increased wage is offset by increase in output per man hour remains stable with unit labour cost. The basis for a stable price level is provided by the stable unit labour cost.

Depending on the definition of capital input there are various capital productivity measures. It may refer to output per unit of capital stock. There are different ways of measuring the stock of capital and may be gross or net. The preferred measure for the most productivity analysis is the flow of capital services rather than the stock. A capital stock measure does not take into account the differences in the concentration of use over time. Machinery may be used for several shifts during a business expansion or may be idle during a contraction. There is also a loss of potentiality of assets, as they grow older. Ideally, the amount of capital employed to produce constant output is indicated as a flow measure. But it is very difficult to estimate a capital flow measure. The

relevant plant and industry study is the output per energy input or per material input are measured by other single factor where these inputs are of considerable importance in the production process.

IMPORTANCE OF PRODUCTIVITY

Productivity, in its broader sense, is measured as how effectively the economies of resources are translated into the production of goods and services. Over a long period of time, productivity is the single most important determinant of a nation's standard of living. It is commonly accepted that productivity growth and economic growth is closely related. Most of the studies in the literature focus on the role of productivity growth towards economic growth. According to Steindel and Stiroh (2001) output growth is the sum of growth of employment and labour productivity growth (Steindel and Stiroh, 2001). Thus, a higher productivity growth leads to a higher GDP growth. However, in some developing countries, the relationship between these two variables may be the other way round which experienced high productivity growth due to economic growth. As there is a argument that a higher economic growth seems to imply higher national or per capita income growth. As we know that income is a function of innovation or technology; higher income growth is due to innovation or due to more investment. So, growth of productivity is based on the growth of technological progress or investment.

The context of standards of living can be related to labour productivity and economic growth. How is productivity associated to per-capita income growth or standards of living? In this connection, we need to make the links between the production side of the economy and the way in which production determines income. In western economies, income is generated mostly in factor markets. It is the value of services of labour and earnings of assets that take place as a result of supplying these factor services to the producers of goods and services. The given supply of labour and capital can rise income from either (a) the value of the good produced has increased or (b) because the productivity of those factors has risen. Higher productivity means the more goods and services can be derived from the same factor inputs. The increase in growth of labour productivity is always a ground for workers to push their claims for higher wages. The wage rate of the workers will increase the productivity due to effort of labour their improved efficiency. The increase in wages of the workers will lead to higher income and subsequently higher standards of living for them. So, there is always a positive relationship between growth of labour productivity and per-capita income growth.

The beneficial effects on productivity growth can be measured at the level of individual worker or industry, as well as at the macroeconomic level at large. The increase in productivity for workers ideally leads to higher wages, allowing them to take home higher pay. The higher productivity in the industries results in lower

unit costs of production and higher profit that can be reinvested and distributed to the workers in the form of higher wages or more employment. Higher productivity drives to important macroeconomic benefits. Aggregate demand enhances productivity growth, both directly and indirectly. The direct stimulus takes place the workers who are also the consumers with the higher disposable income to spend as a result the wage gains arise out of the improvements in their productivity. The indirect stimulus with the consumption arises through the price channel. An increase in real income for people results to lower prices due to improved productivity. The productivity contributes to a country's standard of living, as the most important fundamental barometer of the living standards. The existence of "compensatory mechanisms" through which the economy adjusts depends upon the impact of productivity growth in any sector. As a result, the productivity changes in microeconomic level have important macroeconomic ramifications. In other words, the productivity increase in one sector could shift the composition of the consumer demand economy.

OBJECTIVE

- To Study on the productivity and identify the major techniques employed to estimate productivity in Lanco Industry.

SECONDARY DATA:

The Secondary data was an important in this study. Two main sources for the secondary data collection included Different websites containing reports, journals, books, magazines, research papers and general information on productivity. Through the literature research, some useful journal papers and PDF files also have been founded online.

Table-1
Productivity of Ductile Iron Pipes in Lanco Industry

Year	Ductile Iron Pipes In Million Tones	Total No. of Employees	Productivity in Million Tones
2015-16	225465	1750	128.84
2014-15	169500	1650	102.73
2013-14	162892	1425	114.31
2012-13	157753	1355	116.42
2011-12	146478	1350	108.50
2010-11	134779	1250	107.82
2009-10	149604	1250	119.68

2008-09	123422	1275	96.80
2007-08	113471	1127	100.68
2006-07	98292	1110	88.55
2005-06	76655	1050	73.00

The above table-1 depicts the productivity of ductile iron pipes in lanco industry. The productivity of ductile iron pipes in lanco industry has shown an increasing trend when compared from 2005-06 to 2015-16, where in 2005-06 the productivity is 73.00 million tonnes which has increased to 128.84 million tonnes in 2015-16. Though the productive has been fluctuating in the year 2008-09 (96.8 million tonnes) and 2014-15 (102.73 million tonnes) the productivity has shown a gradual rise in the other years.

Table-2
Productivity of Liquid Metal from MBF in Lanco Industry

Year	Liquid Metal from MBF	Total No. of Employees	Productivity
2015-16	259120	1125	230.33
2014-15	218206	1050	207.82
2013-14	198036	1265	156.55
2012-13	178707	1125	158.85
2011-12	180026	958	187.92
2010-11	146285	925	158.15
2009-10	158503	910	174.18
2008-09	148433	936	158.58
2007-08	148677	870	170.89
2006-07	138958	785	177.02
2005-06	111454	750	148.61

The above table-2 depicts the productivity of liquid metal from MBF in lanco industry. The productivity of liquid metal from MBF in lanco industry has shown an fluctuated from 2005-06 to 2015-16, where in 2005-06 the productivity is 148.61 million tonnes which has increased to 174.18 million tonnes in 2009-10 and then it shows declining trend up to 2013-14 after that it can shows increasing trend in 230.33 million tonnes in the year of 2015-16.

Table-3
Productivity of Cement in Lanco Industry

Year	Cement	Total No. of Employees	Productivity
2015-16	87359	735	118.86
2014-15	85770	770	111.39
2013-14	67396	670	100.59
2012-13	66059	620	106.55
2011-12	90000	537	167.60
2010-11	61384	475	129.23
2009-10	68476	440	155.63
2008-09	86812	509	170.55
2007-08	70002	513	136.46
2006-07	61624	525	117.38
2005-06	33559	400	83.90

The above table-3 depicts the productivity of cement in lanco industry. The productivity of cement in lanco industry has shown an increasing trend and then it shows decreasing trend when compared from 2005-06 to 2015-16, where in 2005-06 the productivity is 83.90 million tonnes which has increased to 167.60 million tonnes in 2011-12, then the productivity has shown a decreasing in other years. By the end of 2015-16 the productivity of cement is 118.86 million tonnes only.

Table-4
Labour Productivity in Lanco Industry

Year	Ductile Iron Pipes in Million Tonnes	Liquid Metal from MBF in Million Tonnes	Cement in Million Tonnes	Total Production in Million Tonnes	Wages and Salaries in Lakhs	Labour Productivity
2015-16	225465	259120	87359	571944	5984.81	95.57
2014-15	169500	218206	85770	473476	4559.1	103.85
2013-14	162892	198036	67396	428324	3632.62	117.91
2012-13	157753	178707	66059	402519	3122.34	128.92
2011-12	146478	180026	90000	416504	2922.34	142.52
2010-11	134779	146285	61384	342448	2729.84	125.45
2009-10	149604	158503	68476	376583	2192.77	171.74
2008-09	123422	148433	86812	358667	1823.54	196.69
2007-08	113471	148677	70002	332150	1654.86	200.71
2006-07	98292	138958	61624	298874	1240.8	240.87
2005-06	76655	111454	33559	221668	1067.92	207.57
Total Labour Productivity						1731.79

The above table-4 depicts the labour productivity in lanco industry. The labour productivity in lanco industry has shown a decreasing trend when compared from 2005-06 to 2015-16, where in 2005-06 the productivity is 207.57 million tonnes which has increased to 240.87 million tonnes in 2006-07. Though, the productive has been falling in the year 2007-08 (200.71 million tonnes) to 2015-16 (65.57 million tonnes). In the case of labour productivity for Lanco Industry, this unit being wages, raw materials cost, transportation cost as well as other costs are so high. This has also been the external happening affect along with the market environment international markets affects as well as the government policies, high taxes, duties and competition with the tiger like economy China and Australia. Thus due to extend and internal aspects show slow growth rate to the extent of 95.57 percent.

Table-5
Machine and Equipment Productivity in Lanco Industry

Year	Ductile Iron Pipes in Million Tones	Liquid Metal from MBF in Million Tones	Cement in Million Tones	Total Production in Million Tones	Depreciation Expenses in Lakhs	Machine and Equipment Productivity
2015-16	225465	259120	87359	571944	2708.84	211.14
2014-15	169500	218206	85770	473476	3116.9	151.91
2013-14	162892	198036	67396	428324	2794.28	153.29
2012-13	157753	178707	66059	402519	2218.42	181.44
2011-12	146478	180026	90000	416504	1999.33	208.32
2010-11	134779	146285	61384	342448	1871.61	182.97
2009-10	149604	158503	68476	376583	1794.6	209.84
2008-09	123422	148433	86812	358667	1641.84	218.45
2007-08	113471	148677	70002	332150	1512.99	219.53
2006-07	98292	138958	61624	298874	1156.89	258.34
2005-06	76655	111454	33559	221668	1093.6	202.70
Total Machine and Equipment Productivity						2197.93

The above table-5 depicts the machine and equipment productivity in lanco industry. The machine and equipment productivity in lanco industry has shown a fluctuating trend when compared from 2005-06 to 2015-16, where in 2005-06 the productivity is 202.70 million tonnes which has increased to 258.34 million tonnes in 2006-07. Though the productive has been reducing in the years of 2014-15 (151.91 million tonnes), after that the machine and equipment productivity shows an increasing trend in the year of 2015-16 (211.14 million tonnes).

Table-6
Material Productivity in Lanco Industry

Year	Ductile Iron Pipes in Million Tonnes	Liquid Metal from MBF in Million Tonnes	Cement in Million Tonnes	Total Production in Million Tonnes	Cost of Materials in Lakhs	Material Productivity
2015-16	225465	259120	87359	571944	48312.92	11.84
2014-15	169500	218206	85770	473476	53204.25	8.90
2013-14	162892	198036	67396	428324	54436.78	7.87
2012-13	157753	178707	66059	402519	56974.38	7.06
2011-12	146478	180026	90000	416504	55758.21	7.47
2010-11	134779	146285	61384	342448	40392.83	8.48
2009-10	149604	158503	68476	376583	37578.14	10.02
2008-09	123422	148433	86812	358667	39775.51	9.02
2007-08	113471	148677	70002	332150	24779.93	13.40
2006-07	98292	138958	61624	298874	19232.45	15.54
2005-06	76655	111454	33559	221668	18264.94	12.14
Total Material Productivity						111.74

The above table-6 depicts the material productivity in lanco industry. The material productivity in lanco industry has shown a fluctuating trend when compared from 2005-06 to 2015-16, where in 2005-06 the productivity is 12.14 million tones which has increased to 15.54 million tonnes in 2006-07. Though, the productive has been reducing in the years of 2014-15 (8.90 million tonnes), after that the material productivity has shown an increasing trend in the year of 2015-16 (11.84 million tonnes).

Table-7
Other Inputs Productivity in Lanco Industry

Year	Ductile Iron Pipes in Million Tonnes	Liquid Metal from MBF in Million Tonnes	Cement in Million Tonnes	Total Production in Million Tonnes	Other Expense in Lakhs	Other Inputs Productivity
2015-16	225465	259120	87359	571944	29876.18	19.14
2014-15	169500	218206	85770	473476	24840.23	19.06
2013-14	162892	198036	67396	428324	24303.86	17.62
2012-13	157753	178707	66059	402519	18688.91	21.54
2011-12	146478	180026	90000	416504	16120.66	25.84
2010-11	134779	146285	61384	342448	17248.5	19.85
2009-10	149604	158503	68476	376583	18761.11	20.07

2008-09	123422	148433	86812	358667	14979.99	23.94
2007-08	113471	148677	70002	332150	11177.39	29.72
2006-07	98292	138958	61624	298874	10960.74	27.27
2005-06	76655	111454	33559	221668	8301.73	26.70
Total Other Inputs Productivity						250.76

The above table-7 depicts the other inputs productivity in lanco industry. The other inputs productivity in lanco industry has shown a fluctuating trend when compared from 2005-06 to 2015-16, where in 2005-06 the productivity is 26.70 million tonnes which has increased to 29.72 million tonnes in 2007-08. Though, the productive has been reducing in the years of 2014-15 (19.06 million tonnes), after that the other inputs productivity has shown slightly increasing trend in the year of 2015-16 (19.14 million tonnes).

CONCLUSION

Productivity, in its broader sense, is measured as how effectively the economies of resources are translated into the production of goods and services. Over a long period of time, productivity is the single most important determinant of a nation's standard of living. The productivity contributes to a country's standard of living, as the most important fundamental barometer of the living standards. The existence of "compensatory mechanisms" through which the economy adjusts depends upon the impact of productivity growth in any sector. As a result, the productivity changes in microeconomic level have important macroeconomic ramifications. In other words, the productivity increase in one sector could shift the composition of the consumer demand economy. The productive has been reducing in the years of 2014-15 (151.91 million tonnes), after that the machine and equipment productivity shows an increasing trend in the year of 2015-16 (211.14 million tonnes). The material productivity in lanco industry has shown a fluctuating trend when compared from 2005-06 to 2015-16, where in 2005-06 the productivity is 12.14 million tones which has increased to 15.54 million tonnes in 2006-07. Though, the productive has been reducing in the years of 2014-15 (8.90 million tonnes), after that the material productivity has shown an increasing trend in the year of 2015-16 (11.84 million tonnes). The other inputs productivity in lanco industry has shown a fluctuating trend when compared from 2005-06 to 2015-16, where in 2005-06 the productivity is 26.70 million tonnes which has increased to 29.72 million tonnes in 2007-08.

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