

Productivity and Earnings in Indian Manufacturing Industries, 1946-58

I

The present paper is a continuation of our earlier study namely "Trends in Productivity in Indian Manufacturing Industries, 1946-1958" published as Working Paper No. PD.EAU.WP|164(300).¹ The scope of our earlier study was limited to the estimation and analysis of trends in productivity in Indian manufacturing industries over a period of time (1946 to 1958). The estimates are given (Appendix A) in two forms : firstly, 'productivity per man-hour' in 26 manufacturing industries in the years 1946 to 1958, both in the form of indices and in absolute terms ; and secondly, corresponding 'man-hour requirements per rupee unit of output', i.e., unit labour requirement (ULR) and their indices for the same industries during 1946 to 1958. These estimates are based on the figures of the 'Census of Indian Manufactures'. The methods followed for these estimates and their limitations have been explained in our earlier paper.

In this paper we shall examine the trends of wages, both monetary and real, of persons employed in those industries for which estimates of productivity have been made during the corresponding period. We shall also examine the pattern of changes in the share of wages etc., in the value of gross and net products during the period under review. Moreover, we shall also try to find out whether there is any relationship between productivity variations on the one hand and changes in real earnings and share of wages and salaries in gross and net products on the other.

The study of the distributive pattern of the 'fruits of production' among various production factors is as important as the study of productivity, because questions of productivity and wages are closely bound and our analysis may throw some light on the question whether there is any positive correlation between the two. Higher labour productivity itself cannot guarantee a higher standard of living to the workers, unless the gains of the increased industrial efficiency are equitably distributed and workers get a due share of the fruits of their effort. Workers are not only concerned with 'enlarging the size of the cake', but are also interested in getting and increasing their own

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slice of it. No group has any interest in increased productivity unless they are convinced they will share in the gains. That is why the way in which the benefits of increased production are distributed assumes vital importance. So from this standpoint, our study is expected to produce some significant results.

Our study is entirely based on the figures published in the 'Census of the Indian Manufactures'. It should be mentioned that in our estimates of productivity we have taken into account the productivity of workers and have excluded the persons other than workers. But when we have estimated the per capita earnings and share of wages and salaries, we have included the earnings of persons other than workers since in the Census figures the earnings of both workers and salaried persons are jumped together in the total wages and salaries bill.

II

In this section we shall examine the trends of money earnings and real earnings of the persons employed in 26 Manufacturing industries during the period under review. Table 1 below indicates the per capita average annual earnings of the persons employed in these industries. Table 2 gives the indices of per capita average annual earnings :

TABLE 1

Average annual earnings per person employed (in Rs.)

sr. no.	industries	1946	1947	1948	1949	1950
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	sugar	408.0	548.5	646.3	607.7	640.0
2	vegetable oil	530.1	522.2	588.4	631.2	700.7
3	paints and varnishes	770.6	988.3	1130.0	1312.0	1433.0
4	soap	747.4	876.9	1091.6	1139.3	1493.7
5	cement	490.2	703.4	787.3	871.6	1096.4
6	paper & paper board	657.8	769.4	982.0	1029.6	1102.8
7	match	690.4	907.6	1025.5	1179.0	1297.9
8	cotton textiles	787.4	960.3	1161.5	1254.9	1199.9
9	woollen textiles	780.8	841.8	1088.9	1257.1	1115.8
10	jute textiles	502.4	694.5	773.5	869.2	853.9
11	iron and steel	946.3	1230.4	1468.0	1558.6	1783.4
12	bicycle	766.4	1040.4	1104.4	1336.3	1449.9
13	plywood & tea chests	558.4	621.1	703.0	743.5	830.0
14	tanning	594.1	592.7	719.9	772.2	787.7
15	ceramics	508.4	554.2	751.1	795.1	894.2
16	electric lamp	928.1	984.1	1118.6	1318.5	1300.4
17	electric fan	813.2	787.6	1015.7	1021.6	1066.9
18	sewing machine	655.0	818.1	1395.6	1356.5	1771.1
19	aluminium, copper & brass	950.4	978.2	1045.7	1115.7	1107.5
20	glass & glass ware	515.5	550.3	589.4	638.9	667.6
21	wheat-flour	693.8	750.5	895.5	1040.6	1063.1
22	rice milling	262.8	288.9	315.9	328.0	358.8
23	biscuit making	642.9	727.5	778.0	873.2	908.5
24	fruits & vegetables	337.1	682.8	901.4	1078.2	859.0
25	distilleries & breweries	588.5	698.4	799.6	955.5	1078.7
26	starch	660.8	676.8	466.6	374.4	589.2

TABLE 1 (CONTINUED)

Average annual earnings per person employed (in Rs.)

1951	1952	1953	1954	1955	1956	1957	1958
(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
785.0	756.3	760.2	851.3	903.6	947.1	931.3	993.0
707.1	720.6	748.1	784.2	782.9	778.1	855.1	908.8
1566.7	1602.5	1642.0	1613.1	1646.6	1818.4	1882.9	2057.2
1444.5	1656.1	1833.3	1909.1	1919.0	2127.7	2459.1	2522.3
1147.2	1334.6	1516.8	1593.0	1570.2	1479.3	1610.2	1699.1
1314.6	1400.8	1316.9	1277.8	1373.8	1455.4	1482.9	1550.5
1642.9	1411.5	1487.0	1153.1	1054.3	1199.1	1244.7	1511.0
1310.0	1369.4	1425.0	1411.0	1412.6	1496.7	1565.9	1587.7
1327.9	1262.9	1303.2	1334.8	1370.4	1303.8	1312.4	1444.2
901.8	1019.4	1036.0	1059.6	1108.5	1138.6	1150.6	1164.4
2002.4	2156.2	2140.0	2116.8	2139.4	2313.9	2363.3	2441.4
1476.9	1407.2	1360.1	1393.4	1446.4	1530.8	1644.8	1744.8
795.0	787.6	897.4	892.8	841.7	884.5	970.2	1036.1
651.9	863.0	879.9	867.1	833.5	863.3	940.8	996.8
981.7	1015.0	1090.2	1046.9	1128.9	1185.1	1283.2	1307.7
1485.0	1484.1	1568.8	1548.6	1626.4	1768.6	1675.6	1756.7
1223.9	1274.7	1410.4	1295.1	1425.7	1347.1	1541.3	1744.7
1663.5	1728.1	1945.1	1971.6	2039.8	2337.8	2613.9	3007.9
1144.5	1243.5	1245.9	1319.8	1431.3	1529.9	1687.5	1771.2
709.9	674.6	696.2	747.2	750.4	873.1	863.1	977.5
1126.8	1130.0	1183.1	1136.9	1166.8	1227.2	1283.9	1303.6
353.7	353.4	380.6	416.2	432.2	433.9	445.5	428.6
964.9	1025.0	1122.3	1117.0	1149.1	1184.6	1247.6	1471.6
926.0	808.3	786.4	814.0	857.9	902.8	883.5	865.7
1110.5	1160.8	1208.5	1254.0	1280.8	1212.7	1327.0	1453.4
490.0	493.9	951.4	979.7	1079.3	1251.4	1354.8	1386.9

TABLE 2
Indices of average annual earnings per person employed (1946 = 100)

sr.no.	industries	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1	sugar	134.4	158.4	148.9	156.9	192.4	185.4	186.3	208.6	221.5	232.1	228.3	243.4
2	vegetable oil	98.5	111.0	119.1	132.2	133.4	135.9	141.1	144.2	147.7	146.8	161.3	171.4
3	paints & varnishes	128.3	146.6	170.3	186.1	203.3	208.0	213.1	209.3	213.7	236.0	244.4	267.0
4	soap	117.3	146.0	152.4	199.8	193.3	221.6	245.3	255.4	266.4	284.7	329.0	337.5
5	cement	143.5	156.5	177.8	224.1	234.0	272.3	309.4	325.0	320.3	301.8	328.5	346.6
6	paper & paper board	117.0	149.3	156.5	167.7	199.8	213.0	200.2	194.3	208.9	221.3	225.4	235.7
7	match	131.5	148.5	170.8	188.0	238.0	204.4	215.4	167.0	152.7	173.7	180.3	218.0
8	cotton textiles	122.0	147.5	159.4	152.4	166.4	173.9	181.0	179.2	179.4	180.1	198.9	201.6
9	woollen textiles	107.8	139.5	161.0	142.9	170.1	161.7	166.9	171.0	175.5	167.0	168.1	185.0
10	jute textiles	138.3	154.0	173.0	170.0	179.5	202.9	206.2	210.9	220.6	226.6	229.0	231.8
11	iron and steel	130.0	155.1	164.6	188.5	211.6	227.9	177.5	181.8	188.7	199.7	214.6	227.7
12	bicycle	135.8	144.1	174.4	189.2	192.7	183.6	226.2	223.7	226.1	244.5	249.8	258.0
13	plywood & tea chests	11.2	125.9	133.1	146.7	142.4	141.0	160.7	159.9	150.7	158.4	173.8	185.6
14	tanning	99.8	121.2	130.0	132.6	143.4	145.3	148.1	146.0	140.3	145.3	158.4	167.8
15	ceramics	109.0	147.7	156.4	175.9	193.1	199.7	214.4	205.9	222.0	233.1	252.4	257.2
16	electric pump	106.0	120.5	142.1	140.1	160.0	159.9	169.0	166.8	175.2	190.6	180.5	189.3
17	electric fan	96.9	124.9	125.6	131.2	150.5	156.8	173.4	158.0	175.3	165.7	189.5	214.6
18	sewing machine	124.9	213.1	207.1	270.4	254.0	263.8	297.0	301.0	311.4	356.9	399.1	459.2

TABLE 2 (CONTINUED)

sr.no	industries	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
19	aluminium, copper and brass	102.9	110.0	117.4	116.5	120.4	130.8	131.1	138.9	150.6	161.0	177.6	186.4
20	glass and glass ware	106.8	114.3	124.0	129.5	137.7	130.9	135.1	145.0	145.6	169.4	187.4	185.6
21	wheat-flour	108.2	129.1	150.0	153.2	162.4	162.9	170.5	163.9	168.2	176.9	185.1	187.9
22	rice milling	109.9	120.2	124.8	136.5	134.6	134.5	144.8	158.4	164.5	165.1	169.5	163.1
23	biscuit making	113.2	121.0	135.8	141.3	150.1	159.4	174.6	173.8	178.7	184.3	194.1	228.8
24	fruits and vegetables	202.6	267.4	319.9	254.0	274.7	239.8	233.3	241.5	254.5	267.8	262.1	256.2
25	distilleries & breweries	118.7	135.9	162.4	183.3	188.7	197.3	205.4	213.1	214.2	206.1	225.5	247.0
26	starch	102.4	70.6	56.7	86.1	74.2	74.7	144.0	148.3	163.3	189.4	205.0	209.9

It will be seen from the above tables that compared with the base year per capita average earnings in 1958 show an increase in all the industries. The rise of earnings is highest in the sewing machine industry where it has increased by 359.2 per cent and lowest in rice milling industry where it has increased by only 63.1 per cent. In cement and soap industries, the rate of increase is more than 200 per cent. In 14 industries the rate of increase is between 100 to 200 per cent. In 9 industries, the rate of increase is less than 100 per cent.

Comparing the per capita average annual earnings in the various industries, we find very wide and significant differences. In 1958, the highest annual earning was in the iron and steel industry and the lowest was in the rice milling industry.

In this connection, it should be mentioned that the per capita average annual earnings shown in the above table do not correctly reflect the wage conditions of the industrial workers, because in the 'Census of Manufacturing Industries', the earnings of both workers and of salaried persons are lumped together in the total wages and salaries bill. The figures published in the official *Indian Labour Journal* for selected industries, based on the returns received by the Chief Inspector of Factories show that the average per capita annual earnings of the workers are much lower than the average per capita earnings of all persons employed shown in the above table.

More important than the variations in money earnings are the variations in the real earnings, because during the period under review, the prices of consumer goods underwent large and rapid changes. Table 3 below gives the indices of real earnings of the persons employed in different industries between 1946 and 1958. The indices have been worked out by deflating the per capita average annual money earnings by the All India Working Class Consumers' Price Index compiled by the Labour Bureau, shifting the base from 1947 to 1946 by arithmetic conversion.

TABLE 3
Table 3: Indices of average per capita real earnings (1948 = 100)

sr.no.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
		industries	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
1.	117.9	124.7	113.7	116.7	140.4	138.4	134.0	158.0	177.1	169.4	157.4	161.2		
2.	86.4	87.4	90.9	100.2	97.4	101.4	101.5	109.2	118.2	107.2	111.2	113.5		
3.	112.5	115.5	130.0	141.0	148.4	155.2	153.3	158.6	171.0	172.3	168.6	176.8		
4.	102.9	115.0	116.3	151.4	141.1	165.4	176.5	193.5	213.1	207.8	226.9	223.5		
5.	125.9	124.2	135.7	169.8	170.8	203.1	222.6	246.2	256.2	220.3	226.5	229.5		
6.	102.6	117.6	119.5	127.0	145.8	159.0	144.0	147.2	167.1	161.5	155.4	156.1		
7.	115.4	116.9	130.4	142.4	173.7	152.5	155.0	126.5	122.2	126.8	124.3	144.9		
8.	107.0	116.1	121.7	115.5	121.5	129.8	130.2	135.8	143.5	138.8	137.2	133.5		
9.	94.6	109.8	122.9	108.3	124.2	120.7	120.1	129.5	140.4	121.9	115.9	122.5		
10.	121.3	121.3	132.1	128.8	131.0	151.4	148.3	159.8	176.5	165.4	157.9	153.5		
11.	114.0	122.1	125.6	142.8	154.5	170.1	162.7	169.5	180.9	178.5	172.3	170.9		
12.	119.1	113.5	133.1	143.3	140.7	137.0	127.7	137.7	151.0	145.8	148.0	150.8		
13.	87.5	95.1	101.6	112.7	103.9	105.2	115.6	121.1	120.6	115.6	119.9	122.9		
14.	87.5	95.4	99.2	100.5	104.7	108.4	106.5	110.6	112.2	106.1	109.2	111.1		
15.	95.6	116.3	119.4	133.3	140.9	149.0	154.2	156.0	177.6	170.1	174.1	170.3		
16.	93.0	94.9	108.5	106.1	116.8	119.3	121.6	126.4	140.2	139.1	124.5	125.4		
17.	85.0	98.3	95.9	99.4	108.9	117.0	124.7	119.7	140.2	120.9	130.7	142.1		
18.	109.6	167.8	158.1	204.8	185.4	196.9	213.7	228.0	249.1	280.5	275.2	304.1		

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
	copper and brass	90.3	88.6	89.6	88.3	87.9	97.6		94.3	105.2	120.5	117.5	122.5	123.4
19.	aluminium,													
	20. glass & glass ware	93.7	90.1	94.7	98.1	100.5	97.7	97.2	109.8	116.5	123.6	115.4	125.6	
	21. wheat-flour	94.9	101.7	114.5	116.1	118.5	121.6	122.7	124.2	134.6	129.1	127.6	124.4	
	22. rice milling	96.4	94.6	95.3	103.4	98.2	100.4	104.2	120.0	131.6	120.5	116.9	108.0	
	23. biscuit making	99.3	95.3	103.7	107.7	109.6	119.0	125.6	131.7	143.0	134.5	133.9	151.5	
	24. fruits and vegetables	177.7	210.6	244.2	193.0	200.5	179.0	167.8	183.0	203.6	195.5	180.8	169.7	
	25. distilleries													
	and breweries	104.1	107.0	124.0	138.9	137.7	147.2	147.8	161.4	171.4	150.4	155.5	163.6	
26.	starch	89.8	55.6	43.3	65.2	54.2	53.7	103.6	112.3	130.6	138.2	141.4	139.0	

The above table shows that the per capita real earnings of factory employees have increased in all the industries in 1958, compared with those of the base year. As in the case of money earnings, in real earnings also, the sewing machine industry shows the highest rise (204.1 per cent), and the rice milling industry records the smallest rise (8 per cent). In 2 industries, the increase is between 100 to 200 per cent. In 9 industries the increase is between 50 to 100 per cent. In 6 industries the increase is between 25 to 50 per cent. 10 to 25 per cent increase has been recorded in 7 other industries. In one industry the rate of increase of real earnings is less than 10 per cent.

It is to be noted in this connection that the per capita real earnings in all the individual industries show an increase over 1946, which was an abnormal post-war year. It is more appropriate to compare the position regarding real earnings with that prevailing before the war. Taking 1939 as the base year (which was comparatively a normal year immediately preceding world war II) the All India Consumers' Price Index for working class in 1946 was 285. The study of price-wage relationship during the second world war reveals that there was a serious 'wage-lag' during this period as wages failed to keep pace with the rising cost of living. So the rise in the indices of per capita real earnings in the post-war period with 1946 as the base year is by no means an absolute increase; a considerable proportion of the rise is just a recovery from the 'wage-lag' created during the war-years.

III

In this section we shall examine the changes in the share of wages and salaries in the value of gross and net products* in different industries during the period under review. Tables 4 and 5 below show the variations in the share of wages and salaries in gross product and net product respectively.

* *Gross product* means,—Ex-factory value of products, exclusive of transport charges from the factory. *Net product or value added by manufacture* means,—Ex-factory value of products i.e., gross product as defined above, minus the value of fuels and materials used, work done for the factory by other concerns, and depreciation of fixed assets.

TABLE 4
Wages and salaries as percentage of gross product

sr. no.	industries	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1.	sugar	10.1	6.7	10.1	9.8	9.3	8.7	10.8	12.2	9.3	9.3	9.5	9.4	9.8
2.	vegetable oil	3.2	3.3	3.3	3.3	2.9	2.5	3.0	2.9	3.0	3.2	2.6	2.4	2.5
3.	paints and varnishes	8.0	8.8	9.3	8.8	11.5	10.7	11.2	12.0	10.5	10.7	10.9	9.8	10.1
4.	soap	5.0	5.8	5.5	5.2	6.3	4.5	5.2	7.0	7.7	7.3	6.6	6.7	6.3
5.	cement	13.0	19.7	14.9	14.5	13.2	12.7	10.2	12.0	11.0	11.5	12.1	12.1	11.9
6.	paper and paper board	16.1	21.2	20.2	18.1	18.9	16.3	15.4	15.7	15.5	14.7	15.2	14.7	13.0
7.	match	15.0	22.0	20.8	23.9	25.4	29.1	24.7	27.2	26.7	27.1	26.2	27.5	24.0
8.	cotton textiles	22.7	27.6	23.6	26.0	24.4	19.5	22.7	24.9	23.7	23.4	24.1	25.0	24.9
9.	woollen textiles	18.6	17.2	21.1	23.8	15.3	13.4	17.5	15.7	14.9	14.6	12.9	12.0	12.7
10.	jute textiles	18.2	18.0	16.2	19.6	17.6	12.3	17.5	24.9	23.3	22.2	21.8	21.2	21.5
11.	iron and steel	20.3	24.3	25.8	22.5	24.4	25.9	24.1	22.8	21.0	20.6	17.9	18.2	17.6
12.	bicycle	32.0	32.6	30.2	29.7	23.6	24.4	20.5	16.0	14.9	15.4	15.6	15.6	15.6
13.	plywood and tea chests	20.6	20.7	14.6	15.9	17.1	14.1	13.2	17.7	15.9	13.9	13.3	14.2	15.4
14.	tanning	10.5	11.6	10.9	11.2	8.6	7.8	9.6	8.9	8.7	7.5	7.7	8.3	8.8
15.	ceramics	35.9	42.0	43.0	40.8	44.7	43.6	44.0	43.4	42.6	40.1	39.2	37.9	34.7
16.	electric lamp	21.7	25.8	25.1	21.1	21.8	23.0	20.7	22.0	22.2	19.8	18.4	17.2	19.5
17.	electric fan	26.2	27.3	25.1	27.7	24.6	24.9	25.0	26.4	25.1	24.0	25.1	24.0	21.0
18.	sewing machine	45.1	52.5	43.2	39.1	46.1	36.1	36.2	30.8	39.0	30.7	31.1	28.2	27.4

Table 4 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
19.	aluminium, copper and brass	13.9	13.7	14.0	12.9	11.2	10.6	11.8	11.2	10.2	9.2	8.4	8.9	9.4
20.	glass & glass ware	37.6	35.6	34.7	37.8	33.4	31.4	34.2	31.5	31.1	28.7	27.9	25.8	23.7
21.	wheat-flour	3.4	5.3	3.4	3.0	2.9	3.2	3.3	3.0	2.7	2.7	2.4	2.3	2.5
22.	rice milling	3.7	4.3	3.8	3.6	3.9	3.4	3.4	3.3	3.4	3.1	2.9	3.1	
23.	biscuit making	11.2	12.6	10.9	11.3	9.9	10.4	12.3	11.7	11.7	12.1	10.8	9.7	10.3
24.	fruits and vegetables	13.9	18.9	9.5	13.1	11.4	9.4	14.7	11.7	12.0	10.6	10.5	9.1	9.3
25.	distilleries & breweries	10.7	15.7	17.0	21.0	22.0	18.6	18.4	18.7	18.6	14.9	14.8	14.1	14.7
26.	starch	14.3	22.3	13.1	14.2	9.4	8.0	11.1	5.6	6.9	6.3	5.9	5.1	5.7

TABLE 5
Wages and salaries as percentages of net product

sr. no.	industries	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	(2)													
1.	sugar	48.4	20.8	37.6	40.9	33.9	41.1	38.6	40.8	36.8	37.6	41.6	36.8	37.1
2.	vegetable oil	25.5	40.7	42.2	51.6	63.0	75.1	58.5	40.7	122.2	44.0	41.6	45.2	34.3
3.	paints and varnishes	22.5	25.5	28.1	23.1	33.9	31.7	31.7	34.2	29.8	31.4	32.1	26.1	26.5
4.	soap	23.7	24.1	20.7	21.8	26.3	15.7	15.1	26.6	26.7	24.2	22.0	23.4	19.8
5.	cement	33.5	65.7	34.7	39.6	33.3	34.3	30.1	32.4	27.7	28.8	35.5	38.7	41.0
6.	paper and paper board	43.2	57.0	54.2	50.7	49.8	40.4	41.9	41.8	40.4	34.6	38.6	38.5	34.4
7.	match	26.5	42.2	38.5	46.5	52.7	64.2	54.3	54.3	53.9	60.5	52.0	56.8	44.0
8.	cotton textiles	52.7	65.5	51.3	72.3	74.2	60.2	78.8	74.0	70.4	64.4	67.8	80.2	47.1
9.	woollen textiles	42.4	32.5	42.8	01.5	40.6	46.5	70.9	66.8	71.7	59.7	56.1	47.3	46.7
10.	jute textiles	43.4	62.6	62.6	67.4	59.2	48.6	65.8	68.7	69.7	81.2	75.3	78.4	66.7
11.	iron and steel	42.8	51.7	55.9	47.1	54.1	59.7	55.3	47.5	42.7	42.8	37.0	41.5	46.8
12.	bicycles	57.1	61.9	55.2	53.0	45.0	50.6	57.5	49.4	41.2	39.1	42.8	44.5	44.0
13.	plywood and tea chests	47.4	50.5	37.6	40.7	49.7	40.6	39.4	49.8	45.8	40.1	37.2	36.2	42.4
14.	tanning	60.4	48.3	58.1	48.9	44.1	66.1	66.1	57.9	65.6	66.1	60.5	74.3	59.3
15.	ceramics	56.0	77.3	74.2	67.9	78.4	77.7	80.4	76.1	74.8	69.7	68.5	71.6	62.4
16.	electric lamp	87.9	75.0	68.5	42.2	54.3	59.7	56.3	53.0	56.7	44.7	48.3	43.2	56.0
17.	electric fan	52.9	54.4	56.1	62.9	51.7	60.2	61.2	58.4	50.6	52.0	64.1	56.7	58.9
18.	sewing machine	86.2	83.8	60.6	62.2	79.0	68.6	86.0	55.0	120.9	62.4	66.4	73.3	54.9

TABLE 5 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
19.	aluminium, copper & brass	39.5	50.2	55.3	60.7	49.8	52.3	57.2	66.0	43.9	41.9	41.3	37.1	36.8
20.	glass and glass ware	81.7	71.5	78.8	87.8	81.4	70.0	103.6	90.6	85.8	72.2	78.0	65.4	57.5
21.	wheat-flour	59.6	90.9	36.1	43.1	47.4	56.0	54.8	42.5	30.5	33.5	31.8	31.7	30.4
22.	rice milling	89.2	93.1	88.5	72.1	73.8	80.5	68.2	63.3	56.6	40.4	42.4	47.5	57.7
23.	biscuit making	28.0	33.7	32.4	33.9	27.4	36.5	52.1	49.3	42.7	40.8	40.0	36.0	35.2
24.	fruits and vegetables	40.2	49.4	16.7	38.0	34.3	27.4	42.8	39.1	37.4	30.9	43.3	36.4	34.7
25.	distilleries and breweries	23.5	41.2	37.9	50.4	58.0	45.2	46.0	47.6	51.8	35.2	35.5	32.7	36.7
26.	starch	39.3	150.1	53.7	54.0	47.0	46.0	92.8	25.7	50.3	25.1	38.2	26.4	30.6

The above tables clearly show that the variations in the share of wages and salaries in both gross and net products between 1946 and 1958 do not conform to any uniform trend or pattern.

It will be seen from table 5 that in most of the industries, the share of wages and salaries shows wide fluctuations and the movements are rather irregular. In some industries the share of wages and salaries has increased in 1958 compared to the base year and the gross profit margin has correspondingly decreased. The extent of this increase is really remarkable in a few industries. In some industries the share of wages and salaries shows a decline. But there is no persistent tendency either towards rise or towards decline in the share of wages and salaries over the period as a whole.

The irregular fluctuations might appear *prima facie* to be due to the wide variations in the amount of value added by manufacture or net product which is significantly influenced by price variations of raw materials, fuels and some other factors. If there is a rise in costs of raw materials and fuel, unaccompanied by a similar rise in the price of the product manufactured, there will be a consequent decline in the value added by manufacture, and the share of wages and salaries would tend to be automatically higher, even if no change in the amount of the total wages bill takes place. If we compare the figures of table 5 with the figures of 'net products' of different industries given in the Census, we will find that there is no relationship between changes in the percentage share of wages and salaries in the 'net product' on the one hand and changes in the amount of the 'net product' itself on the other. Indeed, in the case of many industries the two have moved in opposite directions over the period considered.

Again, fluctuations in the share of wages and salaries might apparently be caused by changes in the total size of the wages bill. But an increase in the wages bill may not be properly reflected when expressed as percentage of 'net product' if there is a rise or fall in the amount of net value added. Therefore, fluctuations in the share of wages in 'net product' from year to year do not indicate changes in the total wage bill. This is borne out by a comparison of figures of table 5 with the figures of wages and salaries bill of different industries given in the Census.

It will be seen from table 4 that the share of wages and salaries in gross product shows comparatively small fluctuations and during the period under study it appears to have been fairly stable in most of the industries. Compared with the base year, the share of wages and salaries in 1958 shows a decline in 20 industries and an increase

in 6 industries. It is to be noted that only in 5 industries (Match, Bicycle, Sewing machine, Glass & glassware and Starch) the extent of the rise or fall is significant; in other industries the extent of variation appears to be negligible. In most of the industries the fluctuations in between can by no means be considered as significant.

Moreover, it may be observed that in general, the share of wages and salaries in 'gross product' in the organised large scale industries is comparatively higher than in small, simple-processing industries.

IV

In this section we shall examine the correspondence between productivity variations (Appendix A) on the one hand and variations in real earnings (Table 3) and variations in the share of wages and salaries in gross and net products (Table 4 and 5) on the other in 26 manufacturing industries between 1946 and 1958.

Examination of the figures of productivity and real earnings shows that in general the movement of the two indices have been in opposite directions in a number of years in most of the industries. Yet it is interesting to note that taking the period as a whole, the sewing machine industry records highest increase both in productivity and real earnings and rice milling industry records decline in productivity and lowest rise in real earnings. Similar correspondence is noticeable in a few other industry. But in general, while the real earnings showed an almost continuous rise from year to year in most of the industries, productivity fluctuated very much in the earlier years of the period under review; in the later years, productivity also showed gradual rise in most of the industries.

During the period under review, in 7 industries (plywood and tea chests, tanning, ceramics, electric fan, aluminium, glass and glassware and biscuit making) the rise in productivity was higher than the rise in real earnings throughout the period. In 7 other industries (sugar, paints and varnishes, soap, match, jute, iron and steel and distilleries) the level of productivity lagged behind real earnings and the indices of real earnings were consistently higher than the indices of productivity. In 6 other industries (vegetable oil, bicycles, electric lamp, sewing machine, fruits and vegetable processing and starch) the level of productivity was higher than the level of real earnings throughout the period except in one or two years. In cement industry, except in the first 3 years, level of productivity was higher than the level of real earnings. In paper and paper board, cotton textiles and rice milling industries, the level of real earnings was higher than the level of productivity in most of the years. In woolen textiles and

wheat-flour industries, the level of productivity was higher than the level of real earnings in nearly half of the period; and in the rest half the level of real earnings was ahead of productivity level.

Examination of the movement of productivity on the one hand and changes in the share of wages and salaries in gross and net products on the other during the period under review reveals that we cannot establish any relation between them.

V

The salient results of our study may be given in the following general conclusions.

1. During the period under review, along with the increase in productivity, both the per capita money earnings and real earnings of the employed persons have increased in all the individual industries, though the degree of improvement is most uneven.
2. The improvement in the real earnings of the employees during the period under review cannot be considered as an absolute increase; in fact, a considerable proportion of the rise is just a recovery from the 'wage-lag' created during the war years.
3. During the period under study, the variations in the share of wages and salaries in both gross and net products do not conform to any uniform trend or pattern.

In most of the industries the share of wages and salaries in net product shows wide fluctuations and the movements are rather irregular. There is no persistent tendency either towards rise or towards decline over the period as a whole.

The share of wages and salaries in gross product shows comparatively small fluctuations and during the period under study it appears to have been fairly stable in most of the industries.

4. Examination of the figures of productivity and real earnings shows that in general the movement of the two indices have been divergent in a number of years in most of the industries. Yet it is interesting to note that taking the period as a whole the sewing machine industry records highest increase both in productivity and real earnings and the rice milling industry shows decline in productivity and lowest rise in real earnings.

5. Examination of the movement of productivity and changes in the share of wages and salaries in gross and net products reveals that there is no relationship between them.

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APPENDIX A.
 (1) Indices of productivity per man-hour (1946=100)

srl. no.	industries	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.	sugar	93.5	91.3	102.5	97.3	111.2	106.2	98.5	129.9	122.9	128.4	132.7	133.7
2.	vegetable oil	84.8	93.7	96.7	105.8	107.0	125.0	129.4	138.3	155.8	147.5	160.9	171.0
3.	paints and varnishes	112.5	100.6	118.9	94.2	115.6	122.4	112.7	131.2	133.1	137.6	1435	143.9
4.	soap	85.3	105.8	117.1	118.0	134.5	133.8	123.1	132.3	149.1	164.8	176.9	185.6
5.	cement	96.0	105.3	129.1	170.2	184.8	234.4	253.6	293.4	298.0	255.6	281.5	305.3
6.	paper and paper board	98.9	83.4	104.4	103.3	126.5	138.1	153.6	154.7	161.9	159.7	167.4	180.6
7.	match	96.5	96.0	113.2	108.8	109.7	107.5	108.8	96.9	86.8	95.6	98.2	124.2
8.	cotton textiles	97.4	103.3	112.6	112.6	115.2	122.5	122.5	131.8	137.8	136.4	139.1	139.1
9.	woollen textiles	85.0	78.2	85.4	108.8	104.8	124.8	127.7	134.5	137.9	154.4	145.2	133.0
10.	jute textiles	102.5	105.1	102.5	101.7	104.2	105.1	111.9	115.2	117.0	125.4	130.5	138.1
11.	iron and steel	102.2	94.4	106.9	115.1	115.1	125.9	127.6	127.6	122.8	129.7	127.6	133.2
12.	bicycles	81.7	114.5	135.9	175.6	171.8	187.8	212.2	226.0	242.8	253.4	303.1	316.8
13.	plywood and tea chests	98.6	162.6	171.9	168.4	154.0	200.7	200.7	194.2	230.9	186.3	177.0	166.9
14.	tanning	91.7	114.9	119.4	133.9	135.5	143.0	144.2	152.5	171.1	177.7	169.4	179.8
15.	ceramics	129.2	160.0	175.4	206.2	187.7	212.3	212.3	229.2	249.2	256.9	273.8	303.1
16.	electric lamp	90.5	92.8	116.2	112.6	121.6	143.7	138.7	143.2	166.2	188.3	233.3	232.0
17.	electric fan	106.8	123.8	121.8	123.8	137.4	160.5	160.5	151.7	180.3	151.1	232.6	276.9

APPENDIX A (Contd.)
 (i) Indices of productivity per man-hour (1946 = 100)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
18.	sewing machine	100.0	232.8	248.4	284.4	339.1	384.1	548.4	451.6	517.2	565.6	721.9	879.7
19.	aluminium, copper and brass	104.8	101.0	108.4	126.2	116.2	103.2	103.6	180.3	217.2	237.5	258.6	259.6
20.	glass and glass ware	133.3	147.0	178.8	190.9	207.6	186.4	224.2	247.0	293.9	253.0	347.0	431.8
21.	wheat-flour	78.0	95.2	128.8	122.0	117.0	110.4	105.2	134.9	156.3	174.4	181.9	186.1
22.	rice milling	94.3	89.5	100.2	100.0	104.2	105.5	99.4	102.6	105.0	98.7	100.0	99.6
23.	biscuit making	102.2	109.0	128.5	149.1	132.2	140.4	155.8	164.4	170.4	197.8	218.7	225.8
24.	fruits and vegetables	115.4	209.1	244.7	196.2	245.2	180.9	197.1	196.2	251.9	269.7	304.3	323.1
25.	distilleries and breweries	73.2	73.5	71.6	75.9	80.2	81.5	91.7	84.6	110.0	103.7	113.3	114.8
26.	starch	70.6	110.9	90.1	125.8	112.2	101.8	302.3	334.8	486.4	546.2	542.5	501.8

APPENDIX A

(ii) Productivity per man-hour in terms of 1948 prices (in rupees)

sl.no.	industries	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1.	sugar	4.0	3.8	3.7	4.1	3.9	4.5	4.3	4.0	5.2	4.9	5.2	5.3	5.4
2.	vegetable oil	9.4	8.0	8.8	9.1	10.0	10.1	11.8	12.2	13.0	14.7	13.9	15.1	16.1
3.	paints and varnishes	5.1	5.8	5.2	6.1	4.8	5.9	6.3	5.8	6.7	6.8	7.1	7.4	7.4
4.	soap	7.3	6.2	7.7	8.5	8.6	9.8	9.7	9.0	9.6	10.8	12.0	12.9	13.5
5.	cement	1.5	1.4	1.6	2.0	2.6	2.8	3.5	3.8	4.4	4.5	3.9	4.2	4.6
6.	paper and paper board	1.8	1.8	1.5	1.9	1.9	2.3	2.5	2.8	2.8	2.8	2.9	3.0	3.4
7.	match	2.3	2.2	2.2	2.6	2.5	2.5	2.4	2.5	2.2	2.0	2.2	2.2	2.6
8.	cotton textiles	1.5	1.5	1.6	1.7	1.7	1.7	1.8	1.6	2.0	2.1	2.1	2.1	2.1
9.	woollen textiles	2.1	1.8	1.6	1.8	2.2	2.2	2.6	2.6	2.7	2.8	3.2	3.0	2.7
10.	jute textiles	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.4	1.5	1.5	1.6
11.	iron and steel	2.3	2.4	2.2	2.5	2.7	2.7	2.9	3.0	3.0	2.8	3.0	3.0	3.1
12.	bicycles	1.3	1.1	1.5	1.8	2.3	2.2	2.5	2.8	3.0	3.2	3.3	4.0	4.2
13.	plywood and tea chests	1.4	1.4	2.3	2.4	2.3	2.1	2.8	2.8	2.7	3.2	2.6	2.5	2.3
14.	tanning	2.4	2.2	2.8	2.9	3.2	3.3	3.5	3.5	3.7	4.1	4.3	4.1	4.4
15.	ceramics	0.6	0.8	1.0	1.1	1.3	1.2	1.4	1.4	1.5	1.6	1.7	1.8	2.0
16.	electric lamp	2.2	2.0	2.1	2.6	2.5	2.7	3.2	3.1	3.2	3.7	4.2	5.2	5.2
17.	electric fan	1.5	1.6	1.8	1.8	1.8	2.0	2.4	2.4	2.2	2.7	2.3	3.4	4.1
18.	sewing machine	0.6	0.6	1.5	1.6	1.8	2.2	2.3	3.5	2.9	3.3	3.6	4.6	5.6

PRODUCTIVITY AND EARNINGS

APPENDIX A (Contd.)
 (ii) Productivity per man-hour in terms of 1946 prices (in rupees)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
19.	aluminium, copper and brass	3.1	3.2	3.1	3.4	3.9	3.6	3.2	3.2	5.6	6.7	7.3	8.0	8.0
20.	glass and glass ware	0.7	0.9	1.0	1.2	1.3	1.4	1.2	1.5	1.6	1.9	2.3	2.3	2.8
21.	wheat-flour	12.2	9.2	11.2	15.2	14.4	13.8	13.0	12.4	15.9	18.4	20.6	21.5	21.9
22.	rice milling	5.4	5.1	4.9	5.4	5.4	5.7	5.7	5.4	5.6	5.7	5.4	5.4	5.4
23.	biscuit making	2.7	2.7	2.9	3.4	4.0	3.5	3.8	4.2	4.4	4.6	5.3	5.8	6.0
24.	fruits and vegetables	2.1	2.4	4.4	5.1	4.1	5.1	4.0	4.1	4.1	5.2	5.6	6.3	6.7
25.	distilleries and breweries	3.2	2.4	2.4	2.3	2.5	2.6	2.6	3.0	2.7	3.6	3.4	3.7	3.7
26.	starch	2.2	1.6	2.5	2.0	2.8	2.5	2.2	6.7	7.4	10.8	12.1	12.0	11.1

PRODUCTIVITY AND EARNINGS

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APPENDIX A
(iii) Indices of man hour requirements per rupee (1946 prices) unit of output (1946 =100)

srl. no.	industries	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.	sugar	108.00	108.00	96.00	104.00	88.00	92.00	100.00	76.00	80.00	76.00	76.00	76.00
2.	vegetable oil	118.18	100.00	100.00	90.81	90.41	81.82	72.73	72.73	63.64	63.64	63.64	54.55
3.	paints and varnishes	89.47	100.00	84.21	110.53	89.47	84.21	89.47	76.95	78.95	73.68	73.68	73.68
4.	soap	114.29	92.86	85.71	85.71	71.43	71.43	78.57	71.43	64.29	57.14	57.14	50.00
5.	cement	104.55	95.45	77.27	59.09	54.55	42.42	39.39	34.85	33.33	39.39	36.36	33.33
6.	paper and paper board	101.82	120.00	96.36	96.36	80.00	72.73	65.45	65.45	61.82	63.64	60.00	52.73
7.	match	104.55	104.55	86.64	90.91	90.91	93.18	90.91	102.27	115.91	104.55	102.27	81.82
8.	cotton textiles	103.03	96.87	89.39	89.39	87.88	81.82	81.82	75.76	72.73	74.24	72.73	72.73
9.	woollen textiles	118.75	129.17	118.75	93.75	95.83	81.25	79.17	75.00	72.92	64.58	68.75	75.00
10.	jute textiles	96.47	95.28	97.65	97.65	95.29	95.29	89.41	85.88	85.88	80.00	76.47	71.76
11.	iron and steel	97.67	106.98	93.02	86.05	86.05	79.07	79.07	81.40	76.74	79.07	74.42	
12.	bicycles	122.37	88.16	73.68	56.58	59.21	53.95	47.37	44.74	40.79	39.47	32.89	31.58
13.	plywood and tea chests	101.39	61.11	58.33	59.72	65.28	50.00	50.00	51.39	43.06	54.17	56.94	59.72
14.	tanning	109.76	87.80	85.37	75.61	73.17	70.73	70.73	65.85	58.54	56.10	58.54	56.10
15.	ceramics	77.92	62.34	57.14	48.70	53.25	47.40	46.75	43.51	40.26	38.96	36.36	33.12
16.	electric lamp	111.11	108.89	86.87	88.89	88.22	68.89	71.11	68.89	60.00	53.33	42.22	42.22
17.	electric fan	94.12	80.88	82.35	80.88	72.06	61.76	61.76	66.18	55.88	63.24	42.65	36.76
18.	sewing machine	100.64	42.95	40.38	35.26	29.49	27.56	17.95	22.44	19.23	17.95	14.10	11.54

APPENDIX A (Contd.)
 (iii) Indices of man hour requirements per rupee (1948 prices) unit of output (1948 = 100)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
19.	aluminium, copper & brass	96.88	100.00	93.75	81.25	87.50	96.88	96.88	56.25	46.88	43.75	40.62	37.50
20.	glass and glass ware	75.50	68.87	56.29	52.32	48.34	53.64	44.37	40.40	34.44	28.48	29.14	23.16
21.	wheat-flour	137.50	112.50	87.50	87.50	00.00	94.44	100.00	100.00	100.00	105.56	100.00	100.00
22.	rice milling	105.56	116.67	100.00	100.00	187.50	100.00	100.00	75.00	62.50	62.50	62.50	62.50
23.	biscuit making	100.00	91.89	78.38	67.57	75.68	72.97	64.86	62.16	59.46	51.35	45.95	45.95
24.	fruits and vegetables	87.50	47.92	41.67	52.08	41.67	52.08	50.00	50.00	39.58	37.50	33.33	31.25
25.	distilleries & breweries	135.48	135.48	138.71	132.26	125.81	122.58	109.68	116.13	90.32	96.77	87.10	87.10
26.	starch	142.22	91.11	111.11	80.00	88.89	100.00	33.33	31.11	20.00	17.78	17.78	20.00

APPENDIX A

(iv) Man hour requirements per rupee unit (1948 prices) of output

srl. no.	industries	PRODUCTIVITY AND EARNINGS													
		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
1.	sugar	0.25	0.27	0.27	0.24	0.26	0.22	0.23	0.25	0.19	0.20	0.19	0.19	0.19	
2.	vegetable oil	0.11	0.13	0.11	0.11	0.10	0.10	0.09	0.08	0.08	0.07	0.07	0.07	0.06	
3.	paints and varnishes	0.19	0.17	0.19	0.16	0.21	0.17	0.16	0.17	0.15	0.15	0.14	0.14	0.14	
4.	soap	0.14	0.16	0.13	0.12	0.12	0.10	0.10	0.11	0.10	0.09	0.08	0.08	0.07	
5.	cement	0.66	0.69	0.63	0.51	0.39	0.36	0.28	0.26	0.23	0.22	0.26	0.24	0.22	
6.	paper and paper board	0.55	0.56	0.66	0.53	0.53	0.44	0.40	0.36	0.36	0.34	0.35	0.33	0.29	
7.	match	0.44	0.46	0.46	0.39	0.40	0.40	0.41	0.40	0.45	0.51	0.46	0.45	0.38	
8.	cotton textiles	0.66	0.68	0.64	0.59	0.59	0.58	0.54	0.54	0.50	0.48	0.49	0.48	0.48	
9.	woollen textiles	0.48	0.57	0.62	0.57	0.45	0.46	0.39	0.38	0.36	0.35	0.31	0.33	0.36	
10.	jute textiles	0.85	0.82	0.81	0.83	0.83	0.81	0.81	0.76	0.73	0.73	0.68	0.65	0.61	
11.	iron and steel	0.43	0.42	0.46	0.40	0.37	0.37	0.34	0.34	0.34	0.35	0.35	0.34	0.32	
12.	bicycles	0.76	0.93	0.67	0.56	0.43	0.45	0.41	0.36	0.34	0.31	0.30	0.25	0.24	
13.	plywood and tea chests	0.72	0.73	0.44	0.42	0.43	0.47	0.36	0.36	0.37	0.31	0.39	0.41	0.43	
14.	tanning	0.41	0.45	0.36	0.35	0.31	0.30	0.29	0.29	0.27	0.24	0.23	0.24	0.25	
15.	ceramics	1.54	1.20	0.96	0.88	0.75	0.82	0.73	0.72	0.67	0.62	0.60	0.56	0.51	
16.	electric lamp	0.45	0.50	0.49	0.39	0.40	0.37	0.31	0.32	0.31	0.27	0.24	0.19	0.19	
17.	electric fan	0.68	0.64	0.55	0.56	0.55	0.49	0.42	0.42	0.45	0.38	0.43	0.29	0.25	
18.	sewing machine	1.56	1.57	0.67	0.63	0.55	0.46	0.43	0.28	0.35	0.30	0.28	0.22	0.18	

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
19.	aluminium, copper & brass	0.32	0.31	0.32	0.30	0.26	0.23	0.31	0.31	0.18	0.15	0.14	0.13	0.12
20.	glass and glass ware	1.51	1.14	1.04	0.85	0.79	0.73	0.81	0.67	0.61	0.52	0.43	0.44	0.35
21.	wheat-flour	0.08	0.11	0.09	0.07	0.07	0.07	0.08	0.08	0.06	0.05	0.05	0.05	0.05
22.	rice milling	0.18	0.19	0.21	0.18	0.18	0.18	0.17	0.18	0.18	0.18	0.19	0.18	0.18
23.	biscuit making	0.37	0.37	0.34	0.29	0.25	0.28	0.27	0.24	0.23	0.22	0.19	0.18	0.17
24.	fruits and vegetables	0.48	0.42	0.23	0.20	0.25	0.20	0.25	0.24	0.24	0.19	0.18	0.16	0.15
25.	distilleries and breweries	0.31	0.42	0.42	0.43	0.41	0.39	0.38	0.34	0.36	0.28	0.30	0.27	0.27
26.	starch	0.45	0.64	0.41	0.50	0.36	0.40	0.45	0.15	0.14	0.09	0.08	0.08	0.09