

*Falling Tendency of the Rate of Profit
in Indian Manufacturing Industries*

MARX'S LAW of the falling tendency of the rate of profit, which states that the rate of profit tends to fall in the course of capitalist development, was deduced from the long-term dynamic trend of capitalism for capital accumulation accompanied by continuous technological progress.

The continued existence of capitalist production depends mainly on the technological innovations leading to the introduction of new labour-saving techniques. This means a continuous growth in the expenditures of capitalists on machinery at the expense of labour. In other words, the organic composition of capital displays a steadily rising trend. From this trend Marx deduced that the rate of profit tends to fall in the course of capitalist development.

In the Marxian system the value of any commodity is expressed by the formula:

$$c + v + s = \text{total value} \quad \dots (1)$$

where c represents the value of the materials and machinery used up, v represents the variable capital which reproduces the equivalent of its own value and also produces an excess, a surplus value; s represents the surplus value produced.

From (1) we can have three basic ratios:

i) the rate of profit $p = \frac{s}{c + v} \quad \dots (2)$

$$\text{ii) the rate of surplus value } s' = \frac{s}{v} \quad \dots (3)$$

$$\text{iii) the organic composition of capital } q = \frac{c}{v} \quad \dots (4)$$

By combining the equations (2), (3) and (4), the law of the falling tendency of the rate of profit can be represented by

$$p = \frac{s'}{1+q} \quad \dots (5)$$

It follows from equation (5) that the rate of profit p varies directly with the rate of surplus value s' and inversely with the organic composition of capital q . As already pointed out, the organic composition of capital q displays a steadily rising trend over time due to continuous technological progress. If we now introduce an assumption that s' remains constant, the rate of profit p would tend to fall.

Marx believed that there are some counteracting influences at work, which thwart and annul the effect of the general law. He enumerated six such counteracting causes: 1) increasing intensity of exploitation; 2) depression of wages below the value of labour power; 3) cheapening of elements of constant capital; 4) relative overpopulation; 5) foreign trade; and 6) the increase of stock capital. Nevertheless he believed that these counteracting causes cannot continuously exercise their upward influences on the rate of profit and falling tendency cannot be averted for ever.

STATISTICAL TEST

This article attempts an empirical verification of Marx's law of the falling tendency of the rate of profit on the basis of Indian data. The Census of Manufacturing Industries (CMI) and the Annual Survey of Industries (ASI) together provide us with data that roughly correspond with the Marxist categories necessary for the calculation of organic composition of capital, rate of surplus value and rate of profit. The CMI was started in 1946 and was subsequently replaced by the ASI in 1959. The present study is based on CMI and ASI data covering 20 years from 1946 to 1965¹.

The value of materials, fuels, electricity, lubricants and other inputs purchased and consumed in the manufacture of products and by-products, work done by other concerns and the allowance for depreciation of plant and equipment presented in the annual reports of CMI and ASI roughly correspond to the constant capital c .

The variable capital v roughly corresponds to all payments made in cash to production workers, as compensation for work done during the year.

The surplus value s can be obtained by subtracting the total capital, that is, the sum of constant capital and the variable capital from the sum of ex-factory value of products and by-products exclusive of any incidental expenditure on sales and adjusted for the difference in

stocks of semi-finished goods at the beginning and end of the year and the work done for customers on payment.

When the calculation of the organic composition of capital, the rate of surplus value and the rate of profit is based on the constant capital consumed, with an allowance for depreciation of the fixed capital, we have the "flow" basis of calculating the ratios. In the present study we use the data of constant capital consumed and therefore make use of the "flow" basis.

It may be noted at the very outset that serious shortcomings exist in the data used. The Census of Manufacturing Industries had been confined to only 29 industries. But the coverage of the Annual Survey of Industries extends to the entire industrial sector. Therefore, it is not possible to calculate the ratios for the 20 years 1946-1965 on the basis of the entire industrial sector. Again some of the industries covered by the CMI are not strictly comparable with the respective industries in the ASI. Hence, we have been careful to select only those industries which are common to both CMI and ASI.

Again the coverage of the manufacturing establishments of the individual CMI industries differs from that of the ASI industries. The factories covered by the CMI are those (registered under the Indian Factories Act, 1948) which employ 20 or more workers on any day and use power, while the ASI covers those factories (registered under the same act) which employ 50 or more workers with the aid of power or 100 or more without power including those which did not work during the year. This difference in the coverage would not, however, materially affect the comparability of the organic composition of capital, the rate of surplus value and the rate of profit calculated from the CMI and ASI data.

Trend of the Ratios

We have computed the organic composition of capital (q), the rate of surplus value (s') and the rate of profit (p) for each of the selected industries, which are: 1) Fruit and vegetable processing; 2) wheat flour; 3) rice milling; 4) biscuit making; 5) sugar; 6) starch; 7) cotton textiles; 8) jute textiles; 9) woollen textiles; 10) plywood and tea chests; 11) tanning; 12) paints and varnishes; 13) soap; 14) matches; 15) cement; 16) iron and steel; 17) aluminium, copper and brass; 18) sewing machines; 19) electric fans; 20) electric lamps and 21) bicycles.

Then we computed the ratios on the basis of the combined estimates of constant capital, variable capital, and surplus value for all these industries. These ratios are presented in table I.

We have calculated industrywise, as well as for all industries, Kendall's rank correlation coefficients between time on the one hand and q , s' or p on the other.

TABLE I

ORGANIC COMPOSITION OF CAPITAL (q), RATE OF SURPLUS VALUE (s') AND RATE OF PROFIT (p) IN SELECTED INDIAN MANUFACTURING INDUSTRIES, 1946-65

<i>Year</i>	<i>Organic composition of capital</i>	<i>Rate of surplus value (per cent)</i>	<i>Rate of profit (per cent)</i>
	$q = \frac{c}{v}$	$s = \frac{s'}{v} \times 100$	$p = \frac{s}{c+v} \times 100$
CMI: 1946-58			
1946	4.33	152.54	28.62
1947	4.08	117.32	23.11
1948	4.23	133.19	25.48
1949	4.23	80.72	15.44
1950	4.74	103.21	17.99
1951	5.60	121.12	18.36
1952	4.77	84.79	14.68
1953	4.14	90.89	17.69
1954	4.70	109.40	19.20
1955	4.97	127.32	21.32
1956	5.17	125.20	20.31
1957	5.41	110.52	17.24
1958	5.39	122.43	19.16
ASI : 1959-65			
1959	4.95	116.23	19.53
1960	5.73	116.23	17.27
1961	5.99	119.83	17.15
1962	5.91	109.27	15.82
1963	6.03	116.49	16.57
1964	6.28	123.38	16.95
1965	6.31	113.99	15.59

Organic Composition of Capital

Table II presents the rank correlation coefficients τ_{lq} between l and q . From this table we find that 14 out of 21 industries show positive and substantial correlation between l and q and the correlation coefficients for these 14 industries are statistically significant at the 0.1 per cent level, that is, very highly significant. Four other industries show appreciable positive correlation which is significant either at the one per cent or the five per cent level. Out of the rest, one industry shows a very negligible negative correlation. Two other industries show negligible positive correlation. In these cases the values of the coefficients are not statistically significant. The correlation between l and q for all

TABLE II

KENDALL'S RANK CORRELATION COEFFICIENTS τ_{tq}
 BETWEEN TIME (t) AND ORGANIC COMPOSITION OF
 CAPITAL (q)

<i>Industry</i>	<i>Rank correlation coefficient</i>	<i>Test of significance Critical-ratio</i>	<i>Remarks</i>
Fruit and vegetable processing	+0.58	+3.54	significant at 0.1 % level
Wheat flour	+0.72	+4.38	-do-
Rice milling	+0.67	+4.12	-do-
Biscuit making	+0.66	+4.06	-do-
Sugar	+0.34	+2.04	significant at 5 % level
Starch	+0.66	+4.06	significant at 0.1 % level
Cotton textiles	+0.63	+3.86	-do-
Jute textiles	+0.05	+0.29	non-significant
Woollen textiles	+0.55	+3.34	significant at 0.1 % level
Plywood and tea chests	+0.57	+3.47	-do-
Tanning	+0.57	+3.47	-do-
Paints and varnishes	+0.33	+1.98	significant at 5 % level
Soap	-0.02	-0.10	non-significant
Matches	+0.40	+0.23	-do-
Cement	+0.82	+5.03	significant at 0.1 % level
Iron and steel	+0.73	+4.45	-do-
Aluminium, copper and brass	+0.85	+5.22	-do-
Sewing machines	+0.48	+2.95	significant at 1 % level
Electric fans	+0.79	+4.83	significant at 1 % level
Electric lamps	+0.49	+3.02	significant at 1 % level
Bicycles	+0.89	+5.48	significant at 0.1 % level
ALL INDUSTRIES	+0.74	+4.57	significant at 0.1 % level

industries is also very high and the coefficient is significant at the 0.1 per cent level and highly so. Thus we see that in most of the industries we have analyzed, the organic composition of capital has displayed a fairly persistent tendency to rise during the 20 years under consideration.

Rate of Surplus Value

Table III presents the rank correlation coefficients $\tau_{ts'}$ between t and s' . Here only two industries show substantial positive correlation which is significant at 0.1 per cent level. The coefficients for two

TABLE III

KENDALL'T RANK CORRELATION COEFFICIENTS $\tau_{ts'}$
 BETWEEN TIME (t) AND RATE OF SURPLUS VALUE (s')

Industry	Rank correla- tion coeffi- cient	Test of significance	
		Critical ratio	Remarks
Fruit and vegetable processing	- 0.29	- 1.78	non-significant
Wheat flour	+ 0.46	+ 2.92	significant at 1 % level
Ricemilling	+ 0.65	+ 3.99	significant at 0.1 % level
Biscuitmaking	+ 0.17	+ 1.01	non-significant
Sugar	- 0.23	- 1.40	-do-
Starch	+ 0.43	+ 2.63	significant at 1 % level
Cotton textiles	- 0.08	- 0.49	non-significant
Jute textiles	- 0.24	- 1.46	-do-
Woollen textiles	+ 0.05	+ 0.29	-do-
Plywood and tea chests	- 0.21	- 1.27	-do-
Tanning	+ 0.14	+ 0.81	-dn-
Paints & varnishes	- 0.35	- 2.11	significant at 5 % level
Soap	- 0.08	- 0.49	non-significant
Matches	- 0.52	- 3.15	significant at 1 % level
Cement	+ 0.08	+ 0.49	non-significant
Iron and steel	- 0.02	- 0.10	-do-
Aluminium, copper and brass	+ 0.72	+ 4.38	significant at 0.1 % level
Sewing machines	- 0.12	- 0.68	non-significant
Electric fans	- 0.06	- 0.36	-do-
Electric lamps	+ 0.07	+ 0.42	-do-
Bicycles	+ 0.06	+ 0.36	-do-
ALL INDUSTRIES	0.00	- 0.03	non-significant

other industries lie between +0.4 and +0.5 and are significant at one per cent level. Only one industry shows a negative but substantial correlation where the value of the coefficient is significant at one per cent level. The value of $\tau_{ts'}$ for another industry is in the neighbourhood of -0.4 and significant at five per cent level. The coefficients for the remaining 15 industries are numerically smaller and sometimes close to zero: all these values are not significant. Strikingly, the value of $\tau_{ts'}$ for all industries is exactly equal to zero implying that on the whole the rate of surplus

TABLE IV

KENDALL'S RANK COEFFICIENTS τ_{lp} BETWEEN TIME (t) AND RATE OF PROFIT (p)

Industry	Rank correlation coefficient	Test of significance	
		Critical ratio	Remarks
Fruit and vegetable processing	-0.63	-3.86	significant at 0.1 % level
Wheat flour	+0.22	+1.33	non-significant
Rice milling	+0.58	+3.54	significant at 0.1 % level
Biscuitmaking	-0.21	-1.27	non-significant
Sugar	-0.48	-2.95	significant at 1 % level
Starch	+0.07	+0.42	non-significant
Cotton textiles	-0.26	-1.59	-do-
Jute textiles	-0.19	-1.14	-do-
Woollen textiles	-0.16	-0.94	-do-
Plywood and tea chests	-0.49	-3.02	significant at 1 % level
Tanning	-0.31	-1.85	non-significant
Paints and varnishes	-0.38	-2.30	significant at 5 % level
Soap	-0.02	-0.10	non-significant
Matches	-0.58	-3.54	significant at 0.1 % level
Cement	-0.46	-2.82	significant at 1 % level
Iron and steel	-0.46	-2.82	-do-
Aluminium, copper and brass	+0.48	+2.95	-do-
Sewing machines	-0.23	-1.40	non-significant
Electric fans	-0.59	-3.60	significant at 0.1 % level
Electric lamps	-0.27	-1.65	non-significant
Bicycles	-0.66	-4.06	significant at 0.1 % level
ALL INDUSTRIES	-0.42	-2.56	significant at 5 % level

value displays neither a rising nor a declining trend over the period under consideration.

Rate of Profit

The rank correlation coefficients (τ_{lp}) between t and p are presented in table IV. Here only four industries show positive rank correlation but the coefficients for two out of these four are small and non-significant, one being close to zero. The coefficients for the other two industries are significant, one at 0.1 per cent level and

the other at one per cent level. Eight industries show small negative coefficients which are not statistically significant. The correlation coefficient for another industry is in the neighbourhood of -0.4, the value being significant at a five per cent level. The remaining eight industries show substantial negative correlation between t and p —three values being significant at 0.1 per cent level and the remaining five at one per cent level. The value of τ for all industries in the neighbourhood of -0.4; it is significant at five per cent level. On the whole, the industrywise rank correlation coefficients between t and p as well as the coefficient for all industries indicate a falling tendency of the rate of profit over the period 1946-65.

Marx's law of the falling tendency of the rate of profit has been debated by many critics and commentators. In the following discussion an attempt will be made to examine some of these critiques and comments in the light which our study of the Indian manufacturing industries seems to have thrown.

IS THE BASIC ASSUMPTION WRONG?

According to Tugan-Baranowsky, Bortkiewicz, Joan Robinson and Paul Sweezy the basic assumption of the law of falling tendency of the rate of profit, that the rate of surplus value remains constant as organic composition of capital increases, is quite illegitimate because the increase in organic composition will necessarily be associated with an increase in the labour productivity and therefore a rise in the rate of surplus value⁵. Although at the initial stage of the discussion on the law Marx specifically assumed a constant rate of surplus value, in his subsequent analysis he took account of a rise in the rate of surplus value essentially connected with the rise in organic composition of capital.⁶ But had he been completely satisfied with his initial assumption of a constant rate of surplus value, and remained silent on the question of rise in the rate of surplus value due to a rise in the organic composition, the law could not yet be dismissed. Sometimes the rate of surplus value may have a tendency to remain at the same level even when labour productivity increases due to a rise in the organic composition of capital. We have earlier seen that the organic composition of capital in the Indian manufacturing industries has on the whole displayed a fairly persistent tendency to rise during the 20 years under consideration. During this period labour productivity increased steadily. Table V shows that the index of "gross labour productivity per worker" rose from 100 in 1950 to 183 by 1966. This reflects a rise of 320 per cent in gross ex-factory output at constant prices.

Undoubtedly the rise in "gross labour productivity per worker" was largely due to the effect of the technological changes that took place in the Indian manufacturing industries during the plan era. In spite of this

TABLE V

INDICATORS OF LABOUR PRODUCTIVITY AND REAL WAGE, 1950-1966

All-Industries: CMI and ASI data

(Base 1950=100)

<i>Year</i>	<i>Index of gross ex-factory output corrected for price changes</i>	<i>Index of gross labour productivity per worker</i>	<i>Index of real wage</i>
1950	100.0	100.0	100.0
1951	113.1	112.3	102.6
1952	108.8	109.2	112.1
1953	108.9	104.2	109.4
1954	119.5	114.4	114.9
1955	131.8	121.8	127.1
1956	143.4	125.5	118.5
1957	148.8	130.3	117.3
1958	147.5	135.3	110.4
1959	228.6	133.8	108.4
1960	243.1	138.3	113.0
1961	270.6	145.1	118.5
1962	303.9	154.5	119.4
1963	343.3	166.5	116.8
1964	388.5	175.3	107.3
1965	415.8	178.9	110.2
1966	420.4	183.3	107.1

SOURCE: *Quarterly Economic Report of the Indian Institute of Public Opinion*, vol XVI, no 1, July 1969.

the average rate of surplus value in the industries analyzed did not register any tendency to rise during 1946-65. Rather it showed a tendency to remain constant at certain level. Table VI, which presents the rank correlation coefficients τ_{qs} , between the organic composition of capital and the rate of surplus value, does not indicate that an increase in the organic composition of capital would necessarily be associated with a rise in the rate of surplus value. Only five out of 21 industries show significant positive correlation between the organic composition of capital and the rate of surplus value while 16 industries show small and non-significant correlation. Among the former, the coefficient is significant at 0.1 per cent level for one industry, and at one per cent level for one industry. In the case of the latter industries, the values of τ_{qs} lie between +0.1 and -0.1 for eight industries, between +0.1 and +0.2 for five industries and between -0.1 and -0.2 for three industries. The coefficient for all industries is only 0.05 and far from significant.

TABLE VI

KENDALL'S RANK CORRELATION COEFFICIENTS $\tau_{qs'}$ BETWEEN ORGANIC
COMPOSITION OF CAPITAL (q) AND RATE OF SURPLUS VALUE (s')

<i>Industry</i>	<i>Rank correla- tion coeffi- cient</i>	<i>Test of significance Critical ratio</i>	<i>Remarks</i>
Fruit and vegetable processing	0.00	-0.03	non-significant
Wheat flour	+0.47	+2.89	significant at 1 % level
Rice milling	+0.47	+2.89	-do-
Biscuit making	+0.36	+2.17	significant at 5 % level
Sugar	-0.03	-0.16	non-significant
Starch	+0.45	+2.76	significant at 1 % level
Cotton textiles	-0.04	-0.23	non-significant
Jute textiles	+0.14	+0.81	-do-
Woollen textiles	-0.04	-0.23	-do-
Plywood and tea chests	+0.05	+0.29	-do-
Tanning	-0.02	-0.10	-do-
Paints and varnishes	+0.03	+0.16	-do-
Soap	-0.13	-0.75	-do-
Matches	+0.12	+0.68	-do-
Cement	+0.20	+1.20	-do-
Iron and steel	+0.11	+0.62	-do-
Aluminium, copper and brass	+0.62	+3.80	significant at 0.1% level
Sewing machines	+0.07	+0.42	non-significant
Electric fans	-0.13	-0.75	-do-
Electric lamps	-0.16	-0.94	-do-
Bicycles	+0.62	+0.62	-do-
ALL INDUSTRIES	+0.05	+0.29	non-significant

Obviously it would not be reasonable to assume that an increase in the organic composition of capital would always be associated with a rise in the rate of surplus value.

REAL WAGES

Let us now consider Joan Robinson's criticism that Marx's arguments on the falling rate of profit involve a drastic inconsistency.⁴ If the rate of exploitation tends to be constant, real wages tend to rise as productivity increases. Labour receives a constant proportion of an increasing total. Marx could only demonstrate a falling tendency in profits by abandoning his argument that real wages tend to be constant.

But the data of Indian manufacturing industries do not seem to confirm Robinson's views.

We have already seen that between 1950 and 1966, the index of "gross labour productivity per worker" in the Indian manufacturing industries displayed a more or less continuous rise. But during this period the index of real wages recorded several variations (See table V). The index of "gross labour productivity" sharply rose from 100 in 1950 to 183 in 1966 while the index of real wages rose from 100 in 1950 to 127 in 1955 and came down to 107 by 1966. We have calculated Kendall's rank correlation coefficient τ between these two indexes. The value of τ is +0.07 which is close to zero and indicates very little positive correlation between the index of gross labour productivity per worker and the index of real wages. The coefficient is far from significant. It appears that at least for the Indian manufacturing industries, the movement of the real wages is to a great extent independent of that of the gross labour productivity per worker. Again we have seen earlier that the rate of surplus value did not display any rising or declining trend over the period 1946-65. If we consider the period 1950-65, the trend of the rate of surplus value does not change appreciably. Kendall's rank correlation coefficient between time (t) and s' for this period is +0.18 which is not significant. During this period, s' did not show any appreciable tendency to rise over time. On the other hand, the coefficient τ between t and p for this period is -0.37. The coefficient is significant at five per cent level, indicating a tendency for the rate of profit to fall over the period 1950-65. Thus Robinson's arguments—that if the rate of exploitation tends to be constant real wage tends to rise as productivity increases, and Marx could only demonstrate a falling tendency in profits by abandoning his argument that real wages tend to be constant—do not seem to be valid so far as the Indian manufacturing industries are concerned.⁹

VALIDITY IN MONOPOLY CAPITALISM

Gillman⁸ believes that the rise in the organic composition of capital as a result of technological progress may be checked or even reversed by some qualitative changes in the production and realization of surplus value and in the nature of the capitalist business structure. He holds that capitalism has made its greatest advances since Marx's days through "cheapening the elements of constant capital". Twentieth-century capitalism is characterized by the prevalence of new technologies contributing to the minimization of capital consumption, reducing the c of the $\frac{c}{v}$ ratio, both by way of effecting operating economies and by the more efficient utilization of raw materials and thus checking or even reversing the tendency for the organic composition of capital to increase in value terms in accordance with traditional Marxist expectations. Moreover new forms of business organization have developed on the

production as well as on the realization of surplus value. Gillman points out that monopoly capital became the dominant form of business organization in the United States in the years following the First World War. The growth of monopoly capital set the conditions for the advance of capitalism by way of reducing areas of competition, establishing domination over output and markets, controlling investment and output and eliminating destructive price-cutting practices. With their command over large masses of capital, monopoly capitalists were enabled to build the larger plants and install the bigger, better, more efficient and more economical production equipment. With these they realized the economies of scale not available to their smaller competitors.

Monopoly capital fostered a revolution in the technology of production and application of scientific management, which advanced the productivity of labour without requiring comparably large additions to constant capital. The years following the First World War were characterized in the USA by industrywise concentration on the elimination of waste; on the standardization of parts, products and processes; on improving the efficiency of plant and labour, and on the development of by-products.

Effects of Technological Change

The rapid substitution of electricity for steam as the motive power of industrial production brought about revolutionary technological changes in the American manufacturing industries. With the aid of electric motive power and the electrically operated automatic controllers, bigger and more powerful machines could be operated, new, stronger and more durable metallurgical and chemical products created, productive efficiency multiplied and the employment of constant capital minimized.

As Gillman points out, all this tended to reduce the relative value of c , increase the utilization of labour per unit of c , increase the v of the $\frac{c}{v}$ ratio, and so to retard the growth of the organic composition of capital in the American manufacturing industries in the years following the first war. The rate of profit *vis-a-vis* the organic composition of capital therefore tended to remain stationary, or even to rise slightly with the rising tendency of the rate of surplus value which the changes in the form of production and realization of surplus value tended to effect.

But Gillman does not conclude that Marx's law of the falling tendency of the rate of profit has ceased to operate under conditions of monopoly capital. He takes the view that the traditional formula of the law is not valid under these new conditions. This formula no longer applies, because its terms, as traditionally defined, are too rigid to encompass and reflect the effects of the new technology and the new forms of business organization on the production as well as the realization of surplus value. Accordingly, he suggests that if the law has to apply under

conditions of monopoly capital, its terms must be redefined so as to conform with the new technology and the new forms of business organization on the production as well as on the realization of surplus value.

One can get the general impression from Gillman's findings that the traditional formula of Marx's law of falling tendency of the rate of profit should not be applicable in the case of those countries (including the developing ones) also where monopoly capitalism has developed and India can by no means be an exception because long before independence, the Indian entrepreneurs had been entrenching themselves in monopolistic control of the country's industries and trade whenever feasible. The post-independence economic development of the country has given to the private sector ample opportunities which have further accentuated the monopolistic tendencies.

Indian Monopolies

The monopolists in India, during the 20 years from 1946 to 1965, particularly during the five-year plans, created massive and colossal production forces, exercised vast economic power through concentration of paid-up capital, assets and productive resources⁷ to establish their command over the country's economy. It is true, the monopolists in India, in terms of absolute size and volume of business, would appear as pigmies beside the gigantic world monopolies of the USA, UK or West Germany. Nevertheless, the relative gigantism of the Indian monopolists, whatever may be their absolute size and volume of business, have enabled them, within the framework of the developing Indian economy, to acquire most of the qualities of the American monopolies that have been clearly described by Gillman. As noted by him in the case of American monopolies, their Indian counterparts also seek to improve profit trends by way of eliminating competition and by way of advancing the technology of production. By dominating the market they aim to reduce the menace of price cuts at all times and especially when a crisis threatens. When a crisis breaks out they cut production to maintain prices by dominating output. These are very common practices in the Indian economy. Even in industries where ownership and production capacity are somewhat dispersed, well-knit trade associations like the Millowners' Federation, Indian Sugar Mills Association or Indian Jute Mills Association contrive to manipulate the market to serve their own ends.

In exercising economic power the monopolists in India show a strong tendency, in the industries which they control, to build larger plants, install bigger, better, more efficient and more economical production equipment with which they can realize the economies of scale not available to their smaller competitors. It is obvious that to build larger plants and introduce more efficient production equipment a firm must have access to sufficient resources to carry out its plans for development. It appears from the data on financial assistance sanctioned

and disbursed by financial institutions to the private sector, presented in the report of the Industrial Licensing Policy Inquiry Committee, that with regard to the supply of capital during the period 1956-66 the monopolists enjoyed more advantageous position than their rival concerns of small and medium sizes.⁸ They had the necessary finance for modernization of plant and machinery, while most of small and medium concerns, because of their inability to borrow sufficient funds for modernization, were compelled to remain satisfied with less efficient plant and machinery.

It is very likely that the monopolists' domination over all the productive resources of the country, production and sales, and the vast technological changes⁹ brought about by them, must have, as pointed out by Gillman in the case of American manufacturing industries, far-reaching effects on the organic composition of capital, rate of surplus value and the rate of profit denoted by the traditional Marxist formulae and give rise to such counteracting forces as would "thwart and annul" the effects of the general law of falling tendency of the rate of profit within their own concerns as well as that of the average rate of profit. But a comparison of the organic composition of capital, the rate of surplus value and the rate of profit in the large manufacturing establishments with those in the small and medium concerns would give a different picture.

Inter-strata Comparison

Table VII presents the organic composition of capital, the rate of surplus value and the rate of profit by the size classes of factories and Kendall's rank correlation coefficients between the size class of factories on the one hand, and q , s' or p on the other for the 21 industries covered by our study. The figures of this table cover only six years from 1953 to 1958 for which the data necessary for the calculation of organic composition of capital, rate of surplus value and rate of profit by the size of employment in the factories are available. It appears that during the period 1953-58 the organic composition of capital was significantly smaller in the larger factories than in the small and medium units. Kendall's rank correlation coefficients between the size class of factories and q have large negative values. The value for 1957 is significant at 0.1 per cent level and all other values are significant at one per cent level. The rank correlation coefficients between the size class of factories and the rate of surplus value indicate small negative correlation during the period 1953-58. All the values of τ are statistically non-significant. It appears from table VII that during 1953-58 the smaller factory units had been enjoying higher rates of surplus value compared to the larger units. But it should be pointed out that some of the industries covered in the present study had only small and medium-sized factories. They realized higher rates of surplus value. On the other hand the

TABLE VII

ORGANIC COMPOSITION OF CAPITAL, RATE OF SURPLUS VALUE AND RATE OF PROFIT BY THE SIZE CLASS OF FACTORIES AND KENDALL'S RANK CORRELATION COEFFICIENTS BETWEEN SIZE OF FACTORIES ON THE ONE HAND AND q , s' AND β ON THE OTHER. 21 MANUFACTURING INDUSTRIES, 1952-58.

Ratio	Size class of factories: employment										Rank Test of significance		Remarks
	Year	Below 20	20-49	50-99	100-249	250-499	500-999	1000-1999	2000-4999	5000 and above	correla-	Criti-	
Organic composition of capital $(\frac{c}{v})$	1953	20.91	26.92	22.59	16.14	8.58	6.84	4.22	2.95	2.75	-0.89	-3.23	highly significant
	1954	23.94	26.95	25.14	15.74	9.11	8.33	4.82	3.23	3.01	-0.89	-3.23	-do-
	1955	21.17	24.76	27.24	16.44	11.22	8.57	5.55	3.43	3.01	-0.83	-3.02	-do-
	1956	26.26	30.06	29.93	18.97	12.39	8.98	5.81	3.46	2.90	-0.89	-3.23	-do-
	1957	31.51	34.24	27.65	18.94	12.32	9.22	5.56	3.60	3.21	-0.94	-3.44	very highly significant
	1958	30.57	34.92	26.86	17.08	12.08	8.54	5.27	3.48	3.93	-0.89	-3.23	highly significant
	1954	92.23	142.75	178.43	191.30	215.96	225.90	193.51	66.19	121.82	0.00	-0.10	-do-
Rate of surplus value $(\frac{s}{v} \times 100)$	1953	12.00	146.10	130.39	116.08	154.10	193.60	109.87	62.85	93.48	-0.11	-0.31	non-significant
	1954	65.06	252.37	196.81	191.45	220.63	277.43	152.83	78.90	131.62	-0.17	-0.52	-do-
	1955	99.31	236.48	219.37	185.17	273.56	242.57	142.40	78.91	132.29	-0.22	-0.73	-do-
	1956	191.58	230.15	159.50	186.52	256.67	240.03	122.23	56.09	130.22	-0.33	-1.15	-do-
	1957	146.73	245.25	198.18	236.51	251.43	235.70	127.99	75.64	124.18	-0.39	-1.36	-do-
	1958	0.55	5.23	9.53	6.77	16.09	24.69	21.05	15.89	24.95	+0.78	2.82	highly significant
	1954	3.79	5.11	6.83	11.43	21.37	24.22	21.21	15.65	30.40	+0.72	2.61	-do-
Rate of profit $(\frac{s}{c+v} \times 100)$	1955	2.93	9.80	6.97	10.98	18.06	28.98	23.32	17.81	32.83	+0.72	2.61	-do-
	1956	3.64	7.61	7.09	9.27	20.43	24.30	20.89	17.70	33.93	+0.72	2.61	-do-
	1957	5.89	6.53	5.57	9.36	19.28	23.49	18.64	12.19	30.91	+0.61	2.19	significant at 5% level
	1958	4.65	6.83	7.11	13.08	19.22	24.71	20.40	16.89	27.43	+0.78	2.82	highly significant

industries which had large, medium and small units, had been realizing higher rates of surplus value in the larger units than in the small and medium-sized units. The rank correlation coefficients between the size class of factories and the rate of profit indicate high positive correlation. The values of r vary from +0.61 to +0.78. All these values are significant at one per cent level excepting one (for 1957) which is significant at five per cent level.

Capital-and Labour-saving Technology

The very low organic composition of capital in the large factory units belonging to the 21 manufacturing industries compared to that of the units of small and medium size seems to be the result of the relative movements of the proportions of the c and v components of the value of products as the size of the factory increases—the proportion of v increases with the size of the factory, while c decreases. Table VIII shows that the proportion of v was larger in the large units than that in the small and medium units. This might have been due to some strong sociopolitical factors, which are beyond the scope of our consideration in the present article. Table VIII also shows that the proportion of c was smaller in the large units than that in the small and medium units. This indicates that the large factories were operating with a more capital-saving technology compared to the small and medium units. The capital-saving technology contributed to a great extent to the reduction of the proportion of capital consumption in the large factories. This was made possible by way of effecting operating economies and more efficient utilization of raw materials, coal, electricity and so on. Here we should bear in mind that the prevalence of capital-saving technology does not mean that labour-saving technology was of little importance during the period under consideration. In fact, most of the technological improvements resorted to in the manufacturing industries had been labour-saving as well as capital-saving. Rosen's study on specific technological changes that had taken place in the Indian cotton textile industry prior to the commencement of the Second Five Year Plan shows that some of these changes involved replacement of older-type machines by modern machines which reduced the labour requirements.¹⁰ A study on the cement industry shows that the labour-saving technology cut the labour requirements by more than half during the period 1952-62.¹¹ Similar examples of labour-saving technology may be had from other industries also.

As pointed out earlier, small and medium firms, because of their inability to borrow sufficient funds for modernization, lag far behind the large firms in respect of technological improvements. If the decrease in the proportions of c with the increase in the size of factories would have been paralleled by a decrease in the proportion of v through the simultaneous labour-saving effects of technological improvements

TABLE VIII

PERCENTAGE DISTRIBUTION OF THE COMPONENTS OF THE VALUE OF PRODUCTS OF DIFFERENT SIZE-CLASSES OF FACTORIES,
21 MANUFACTURING INDUSTRIES, 1953-1958.

Year	Components of the value of product	Below 20	Size class of factories: employment							2000- 4999	5000 & above
			20-49	50-99	100- 249	250- 499	500- 999	1000- 1999	2000- 4999		
1953	v	4.54	3.40	4.02	5.46	8.99	10.23	15.83	21.82	21.36	
	c	94.92	91.63	90.74	88.20	77.15	69.97	66.78	64.47	58.67	
	v+c	99.46	95.03	94.76	93.66	86.14	80.20	82.61	86.29	80.03	
	s	0.54	4.97	5.24	6.34	13.86	19.80	17.39	13.71	19.97	
	v+c+s	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
1954	v	3.96	3.40	3.58	5.36	8.15	8.63	14.17	20.44	19.14	
	c	92.39	91.74	90.03	84.38	74.24	71.87	68.33	66.03	57.55	
	v+c	96.35	95.14	93.61	89.74	82.39	80.50	82.50	86.47	76.69	
	s	3.65	4.86	6.39	10.26	17.61	19.50	17.50	13.53	23.31	
	v+c+s	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	
1955	v	4.38	3.54	3.31	5.17	6.93	8.10	12.37	19.16	18.78	
	c	92.77	87.54	90.17	84.94	77.77	69.43	68.72	65.72	56.51	
	v+c	97.15	91.08	93.48	90.11	84.70	77.53	81.09	84.88	75.29	
	s	2.85	8.92	6.52	9.89	15.30	22.47	18.91	15.12	24.71	
	v+c+s	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	

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TABLE IX

CUMULATIVE PERCENTAGE DISTRIBUTION OF FACTORIES, OUTPUT AND SURPLUS VALUE BY THE SIZE OF EMPLOYMENT IN MANUFACTURING INDUSTRIES, 1953-58

Size class: employment	Years																	
	1953		1954		1955		1956		1957		1958							
	Facto- ries	Out- put	Sur- plus	Facto- ries	Out- put	Sur- plus	Facto- ries	Out- put	Sur- plus	Facto- ries	Out- put	Sur- plus						
Below 20	21.6	0.6	0.02	19.8	0.6	0.1	19.3	0.6	0.1	17.8	0.6	0.1	14.4	0.6	0.2	14.3	0.5	0.1
20 - 49	56.8	5.0	1.4	52.5	5.0	1.4	52.1	4.6	2.1	50.7	4.8	1.9	48.0	5.2	2.1	60.0	5.4	2.1
50 - 99	73.1	9.3	2.9	70.9	9.7	3.3	70.3	9.5	3.9	69.8	10.2	4.0	68.6	11.2	4.3	69.4	10.6	4.2
100 - 249	79.4	13.4	4.6	78.2	13.7	5.8	78.5	14.0	6.5	78.5	15.2	6.5	77.4	16.4	7.3	77.1	14.7	7.2
250 - 499	82.5	17.5	8.4	81.9	18.4	10.9	82.2	18.9	10.8	82.0	20.2	11.6	81.1	21.5	12.9	81.4	20.6	13.1
500 - 999	87.1	26.9	20.8	87.1	30.1	25.0	87.1	29.7	24.7	87.1	31.2	24.3	86.9	33.4	28.3	87.7	34.2	29.8
1000 - 1999	93.1	48.2	45.5	93.3	50.6	47.3	93.1	49.8	46.4	93.1	51.1	44.7	92.8	52.0	48.1	93.6	53.7	50.3
2000 - 4999	98.9	82.9	77.3	99.0	81.8	73.5	98.9	81.1	73.4	98.7	80.7	71.0	98.8	81.1	69.7	99.0	81.8	75.6
5000 & above	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total number of factories	3232			3222			3386			3526			3386			3265		
Total output (Rs million)	8510			9827			10559			11831			12219			11851		
Total surplus value (Rs million)	1278			1584			1850			1997			1797			1905		

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the organic composition of capital of large factories would not have differed much from that of the small and medium factories. But it appears from table VIII that the labour-saving effects of technological improvements were not so much strong as to offset and balance the decrease in the proportion of c with the increase in the size of factories. On the other hand, the factors which contributed to the increase in the proportions of v with the increase in the size of the factories were so much strong as to overcompensate the labour-saving effects of technological improvements that the proportion of total capital (variable plus constant) in the total value of the products was much lower in the large firms than in the small and medium firms. Consequently the proportion of surplus value realized and rate of profit were much higher in the factory units of large size than in the small and medium units.

Unequal Distribution of Surplus Value

The foregoing comparison between the different capitalist strata seems to confirm the views of Antonio Pesenti¹² that the capitalist superstructure, especially that of monopoly capital, operates on the distribution of the surplus value in such a way as to render this distribution unequal; it acts to the detriment of the weakest capitalist strata; it abstracts from these, part of surplus value and transfers it to the dominant strata. As a result of the domination of the monopolists over the productive resources of the country, there was a very high degree of inequality in the distribution of output and surplus value realized by the different capitalist strata of the 21 manufacturing industries during 1953-58. Table IX shows that the factories belonging to the top three size classes (which constituted less than 14 per cent of the total number of factories) produced more than 65 per cent of total output and realized more than 70 per cent of the total surplus value, while about 70 per cent factories belonging to the bottom three classes produced less than 12 per cent of total output and realized only about 4 per cent of the total surplus value. This high degree of inequality in the distribution of output and surplus value among the different capitalist strata was effected mainly through the technological improvements which significantly reduced the proportion of total capital (variable plus constant) and thereby increased the proportion of surplus value in the total value of the product of the dominant capitalist strata. If technological improvements had been more or less uniform in all the size classes of factories, the proportion of constant capital in the value of products of the weakest strata which was much higher compared to that of the dominant strata would have been much lower and thereby the inequality in the distribution of surplus value would have been significantly reduced. But in reality the technological improvements resorted to in the dominant strata were beyond their reach, and they had to remain satisfied with a negligible share of the total surplus value realized by all capitalist strata.

It would seem from the high degree of inequality in the distribution of surplus value and the very high rates of profit in the dominant capitalist strata, that the average rate of profit would be influenced by those of the large firms. The average organic composition of capital, the average rate of surplus value and the average rate of profit would rise, fall or remain constant as those of the dominant strata would rise, fall or remain constant. Unfortunately, due to non-availability of data, we have not been able to compute the three ratios for individual size classes of factories for the whole period 1946-65 excepting the six years from 1953 to 1958. A period of six years is too short for ascertaining the tendencies of the ratios. Still we have calculated size-class-wise Kendall's rank correlation coefficients between time t on the one hand and q , s' or p on the other for the period 1953-58. These coefficients are presented in table X.

TABLE X

KENDALL'S RANK CORRELATION COEFFICIENTS BETWEEN t ON THE ONE HAND AND q , s' AND p ON THE OTHER, 1953-58

<i>Size-class of factories : employment</i>	τ_{tq}	$\tau_{ts'}$	τ_{tp}
Below 20	+ 0.73	+ 0.73	+ 0.73
20—49	+ 0.73	+ 0.33	+ 0.20
50—99	+ 0.47	+ 0.47	+ 0.60
100—249	+ 0.47	+ 0.47	+ 0.33
250—499	+ 0.60	+ 0.60	+ 0.07
500—999	+ 0.60	+ 0.20	- 0.07
1000—1999	+ 0.47	+ 0.20	- 0.47
2000—4999	+ 0.86*	+ 0.20	- 0.07
5000 & above	+ 0.73	+ 0.33	+ 0.20
ALL CLASSES	+ 0.86*	+ 0.33	- 0.07

NOTE: * This value is significant at five per cent level. All other values are non-significant.

Contradiction of Capitalist Production

It appears that the organic composition of capital in all the size classes of factories displayed, during the six years from 1953 to 1958, a rising tendency which was more or less strong in the dominant strata as well as the weakest, but somewhat weak in the middle strata. The rate of surplus value in all the size classes also showed a rising tendency, but it was weak for the upper size classes, while it was more or less strong in the weakest and middle strata. The rate of profit displayed both rising and falling tendencies—the falling tendencies being observed in some of the upper size classes. The average organic composition of capital displayed a steadily rising tendency. The average rate of surplus value also displayed a rising tendency which was more or less weak as in

the case of the dominant strata. The average rate of profit showed just a tendency to fall. Thus it would seem that the average q , s' and p ratios moved during the period 1953-58, more or less in the same direction as the q , s' and p ratios of the dominant strata.

The behaviour of the organic composition of capital, the rate of surplus value and the rate of profit in the different capitalist strata and within the same strata over the years brings out a clear contradiction of capitalist production. The capitalists of the dominant strata who had been operating with a very low organic composition of capital compared to the weakest and middle strata, enjoyed during the period 1953-58 very high rates of profit, while the capitalists of the weakest and middle strata, because of their inferior technology, had to remain satisfied with lower rates of profit. Yet during this period the capitalists of the dominant strata, who brought about vast technological changes, and dominated over the country's entire productive resources, production and sales and the realization of surplus value, could not give rise to such counteracting forces which could 'thwart and annul' the effects of the general law of the falling tendency of the rate of profit within their own concerns. It was, therefore, beyond their capacity to check the tendency of the average rate of profit to fall. In reality they contributed to a great extent during 1953-58 to the overall tendency of the rate of profit to fall, because the components of the value of products were very highly concentrated in their hands. It is also very likely that during the seven years preceding and seven years following 1953-58, that is 1946 to 1952 and 1959 to 1965, the magnitude of the average q , s' and p ratios were determined to a great extent by the relative weights of c , v and s of the large firms in the total constant capital, variable capital and surplus value because during these two periods also, the productive resources, production and sales were highly concentrated in the hands of monopoly capitalists. But we have seen earlier that during the 20 years from 1946 to 1965, the average organic composition of capital displayed with minor exceptions a fairly persistent tendency to rise (See table II), the average rate of surplus value showed neither a rising nor a declining trend (See table III) and the average rate of profit displayed a tendency to fall (See table IV). What would follow then is that the Indian monopoly capitalists, who had acquired, within the framework of the developing Indian economy, most of the qualities of the American monopolies (as described by Gillman) could not get rid of the subservience to the law of falling tendency of the rate of profit.

BREAKDOWN OF INDIAN CAPITALISM?

Some writers¹⁴ have visualized that in the long run the falling tendency of the rate of profit would lead the capitalist system to what is called "the general crisis of capitalism" and ultimately it would come to a halt. But the falling rate of profit in the Indian manufacturing

industries does not appear to be a prelude to the breakdown of capitalism in the country. There is even no indication that the falling rate of profit ate up the vitality of capitalism in India. Rather, the capitalists, particularly the monopoly capitalists, have gradually strengthened their position since 1946. Apparently this seems to be a contradiction. But we should note that the industrial profits in the usual capitalist accounting is not the same as the profit in Marx's scheme. The Marxist quantity "profit" is the same as the quantity surplus value, and "rent, interest and industrial profit are only different names for different parts of the surplus value"¹⁴. Therefore, when the rate of profit as defined by Marx tends to fall, the rate of industrial profit as calculated in the capitalist accounting system may remain constant or even rise. Therefore, it is not surprising that in spite of the falling tendency of the rate of profit, there has been tremendous growth of capitalism, particularly of monopoly capitalism in the country.

CORRECT UNDERSTANDING OF THE LAW

We have so far examined those critiques and comments which failed to provide a correct understanding of the law of the falling tendency of the rate of profit. We have yet to examine the views expressed by some writers like Dobb, Meek and Konus, who contribute to the understanding that the law must be looked upon as no more than a tendency.¹⁵

Marx saw this tendency and counteracting tendencies "as elements of conflict out of which the general movement of the system emerged." The rate of profit in the Indian manufacturing industries seems to support this view. Earlier we have seen that the all-industries value of the rank correlation coefficient between time and the rate of profit for the 20 years from 1946 to 1965 is -0.42 (Table IV). This implies that the falling tendency of the rate of profit in the Indian industries during the period 1949-65 was no more than a tendency. Had it been falling in a perfectly continuous downward curve, the value of the coefficient would have been equal to -1. The all-industries rate of profit shows a number of peaks and troughs. The rate of profit was very high in 1946. Then it began to fall and reached the trough in 1949; again it began to go up. But the upward movement did not last long and in 1952 it came down to the lowest point. Again there was a sharp rise and it reached the peak in 1955. Then there was another downward movement and the rate of profit reached the trough in 1957. From the next year it moved upward and the peak was attained in 1959. Then the movement was reversed and the trough was reached again in 1962. During the next two years the movement was upward but in 1965 the rate of profit came down to a very low level. It seems that during the various phases of upward movement of the rate of profit, that is, during 1952-55, 1957-59 and 1962-64 some counteracting tendencies induced by the first, second and third plans

respectively had been operative. Although these tendencies could not last long, under their impact the general movement of the rate of profit during the 20 years from 1946 to 1965 became a mere tendency to fall and nothing more.

To draw the finale in our discussion on the falling rate of profit in the Indian manufacturing industries we must point out that due to the following reasons our findings cannot be regarded as conclusive: First, various shortcomings exist in the data we have used (mentioned at the beginning of our discussion); second, we have covered a period of 20 years only, which is not too long and we cannot *a priori* say what would be the tendency of the rate of profit over a very long period; third, the Indian monopolies are mere pigmies compared to the world monopolies of USA, UK, or West Germany; fourth, India is still a developing country. In view of the last two reasons, one may think that the validity of Marx's law cannot be tested by the empirical evidences drawn from the present stage of capitalist development but in terms of capitalism in general. Therefore, the present stage of capitalism in India must come within the purview of the law.

Although we present our findings as tentative, they are very much important in three respects. First, they seem to invalidate some of the major theoretical arguments which are advanced in tortuous attempts to dismiss the law as a mere chimaera. Secondly, they suggest that the validity of the law even under monopoly capitalism cannot be ruled out. Thirdly, they clearly bring out the contradictions of capitalist production, namely (a) the contradiction between the dominant capitalist strata and rest of the capitalists manifested in the unequal distribution of the total surplus value realized and (b) the contradiction manifested in the falling tendency of the rate of profit within the manufacturing establishments of dominant capitalist strata in spite of the vast technological changes brought about by them and their domination over the country's productive resources, production and sales and the realization of surplus value to the detriment of the weakest capitalist strata.

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- ¹ When this study was first undertaken ASI reports were available for the years from 1959 to 1965. Since a deceleration in rates of growth started in almost all industries after 1965, we have not tried to extend the coverage beyond this year although a few more reports have become available.
- ² Tugan-Baranovsky, *Studien zur Theorie und Geschichte der Handelskrisen in England*, G Fischer, Jena, 1901, p 211; L V Bortkiewicz, *Value and Price in the Marxian System*, International Economic Papers, no 2, 1952, pp 44-47; Joan Robinson, *An Essay on Marxian Economics*, Macmillan and Co. Ltd., London 1942, ch V.; P M Sweezy, *Theory of Capitalist Development*, Monthly Review Press, New York 1956, p 102.

- ⁸ See R L Meek, "The Falling Rate of Profit", *Science and Society*, 1960, section II; Roman Rosdolsky, *Zur neuen Kritik des Marxschen Gesetzes der fallenden Profitrate*, *Kyklos*, vol IX, 1956.
- ⁹ Joan Robinson, op.cit., pp 42-43,
- ¹⁰ The theoretical validity of Robinson's criticism cannot be conclusively disproved by the above findings which are based on the data from a narrow sector of the Indian economy. If the whole or a wider sector of the economy could be covered in the present study, Robinson's criticism might have found some empirical support.
- ¹¹ Joseph M Gillman, *The Falling Rate of Profit*, Dennis Dobson, London 1957, ch 6.
- ¹² *Report of the Committee on Distribution of Income and Levels of Living*, Government of India, Planning Commission, part I, p 86; Ajit Ray, *Planning in India*, National Publishers, 1965, ch XX; Government of India, *Report of the Monopolies Inquiry Commission*, 1965; Planning Commission, *Report of the Industrial Licensing Policy Inquiry Committee*, appendices, vol II; Suhas Chattopadhyay, *Technological Progress and the Law of Falling Tendency of the Rate of Profit in Classical and Marxian Economics*, unpublished Ph D thesis, Calcutta University.
- ¹³ *Report of the Industrial Licensing Policy Inquiry Committee*, Main Report, pp 150-53.
- ¹⁴ For studies on the nature and extent of technological changes in the Indian economy see P S Shanmukham and K V Santhanam. "Technological Changes in the Indian Economy, 1953-64 to 1964-65" presented at the Third Input-Output Seminar, Bombay, September 1970; George Rosen, *Industrial Change in India*. The Free Press, Glencoe, Illinois, 1961, pp 176-78; Suhas Chattopadhyay, op.cit.
- ¹⁵ George Rosen, op.cit, pp 176-78.
- ¹⁶ Association of Indian Trade and Industry, *Financial Trends and Productivity in the Cement Industry*, 1966, p 71.
- ¹⁷ Antonio Pesenti, "The Falling Rate of Profit", *Science and Society*, vol XXXIII, 1959, pp 245-46.
- ¹⁸ John Eaton, *Political Economy, A Marxist Text Book*, Current Book House, Bombay 1952, p 131. John Strachey, *The Nature of Capitalist Crisis*. Victor Gollancz Ltd., London 1936, p 239.
- ¹⁹ Karl Marx, "Wages, Price and Profit", *Selected Works*, vol II, p 61.
- ²⁰ See Maurice Dobb, *Capitalism Yesterday and Today*, PPH, Bombay. 1959, p 45 and *Political Economy and Capitalism*, Routledge and Kegan Paul, London, 1960, p 110; R L Meek, "Falling Rate of Profit", *Science and Society*, vol XXIV, 1960, section III; A A Konus, "On the Tendency for the Rate of Profit to Fall", *Socialism, Capitalism and Economic Growth*, C H Feinstein (ed.) Cambridge 1967, pp 72-73.