

CHAPTER - IV

STRUCTURE OF THE COTTON MILL INDUSTRY IN MAHARASHTRA

CHAPTER -IVSTRUCTURE OF THE COTTON MILL INDUSTRY IN MAHARASHTRA

Size constitutes one of the important elements in determining the efficiency of an industrial unit. In general the size may be defined as scale i.e. the scale of production, output or operation. Scale of production in cotton textile industry mainly depends on the number of spindles and looms. Therefore, for measuring the trends in the size of industrial units a statistical measurement is taken. It is the frequency distribution of the different groups of spindles or looms. Depending on them the present size and its trends are measured. The relative and absolute changes in the units are shown by the variation in Group frequencies and also with it, the change in percentage share of each class interval is also calculated.

In general the production picture in the state shows a typical feature i.e. more than 60 per cent of the cotton cloth and more than 40 per cent yarn is produced by the mills of Bombay and its suburbs. Another important feature found in the mill industry is that, the mills in the state except those of Bombay and its suburbs are distributed very unevenly and they are also not sufficiently large as in Bombay except in few cases at Nagpur and Sholapur. Therefore, separate analysis has been taken for them. It will also help in making out the regional variation in size and also with it the character of change in the size of cotton mill can easily be determined.

Trends in the size of industrial units in cotton mill industry in Bombay and suburb.

In cotton mills there are two units, spinning and weaving. For the purpose of this study, the data about these two sections are computed separately for determining the size of spinning and weaving sections.

Size of Spinning Section and its change

Table 30 shows the frequency distribution of spindle activity and Table 31 shows the absolute and relative changes in the number of frequencies in each class-interval. It also shows the changes in percentage share of each class-interval. The magnitude of the class-interval has been taken as 6,000 upto 60,000 spindles and above 60,000, the class-interval in the frequency distribution has been taken as 20,000.

A careful study of these two tables shows many interesting features. At a glance the downward tendency of smaller units are found clearly (Table 30). Another feature is found in 1961, that, about 50 per cent of the spindles are less than 48,000 but that position was changed in 1976. It is now found that only 20 per cent the mills include 48,000 spindles. It shows a clear gradual decline in the number of units in each class-interval having less than 48,000 spindles. These units are either closed or absorbed by bigger units. The total number of units engaged in spinning section also goes down from 60 in 1961 to 54 in 1976.

Table 30Spinning SectionFrequency Distribution of Spindle Activity, 1961-76

Spindles Installed	1961	1964	1967	1970	1973	1976
6,000 and below	3	4	2	2	2	1
6,001 - 12,000	1	1	1	1	1	-
12,001- 18,000	-	-	-	1	1	-
18,001 - 24,000	1	1	-	-	-	2
24,001 - 30,000	3	3	1	1	1	1
30,001 - 36,000	7	3	4	5	4	4
36,001 - 42,000	4	3	2	1	-	1
42,001 - 48,000	10	5	6	6	6	2
48,001 - 54,000	6	9	10	10	10	12
54,001 - 60,000	7	11	8	7	6	9
60,001 - 80,000	10	8	5	6	8	7
80,001 -100,000	3	3	7	7	6	7
100,000 and above	5	7	9	9	10	9
Total :	60	58	56	56	55	54

Table 31

Relative and absolute change in Group Frequencies

Spindles Installed	Frequencies		Variation in group frequen- cies bet- ween 1961 and 1976 - or +	Percentage share of each class interval		Change in percenta- ge share of each class- interval and 76 - or +
	1961	1976		1961	1976	
6,000 and below	3	1	- 2	5.0	1.9	- 3.1
6,001 - 12,000	1	-	- 1	1.7	-	- 1.7
12,001 - 18,000	-	-	-	-	-	-
18,001 - 24,000	1	2	+ 1	1.7	3.7	+ 2.6
24,001 - 30,000	3	1	- 2	4.8	1.9	- 2.9
30,001 - 36,000	7	4	- 3	11.1	7.3	- 3.8
36,001 - 42,000	4	1	- 3	6.8	1.9	- 4.9
42,001 - 48,000	3	2	- 8	17.6	3.7	-13.9
48,001 - 54,000	6	12	+ 6	9.5	21.6	+12.1
54,001 - 60,000	7	9	+ 2	10.1	16.3	+ 6.2
60,001 - 80,000	10	7	- 3	17.6	12.7	- 4.9
80,001 - 100,000	3	7	+ 4	4.8	12.7	+ 7.9
100,000 and above	5	9	+ 4	8.3	16.3	+ 8.0
Total	60	54	- 5	100.0	100.0	

Trends in the size of cotton mill industry

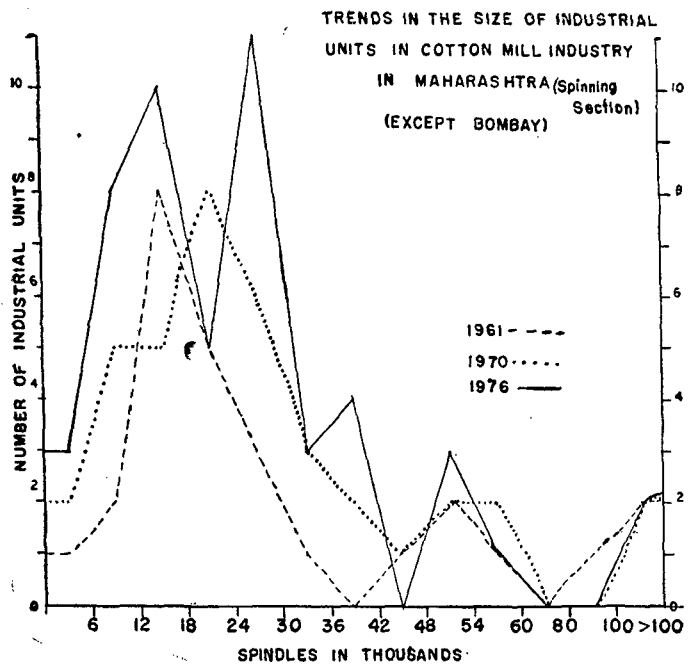


FIG 36

The interpretation can be observed clearly from the Fig. 36 on which three years (1961, 1967, 1976) frequency distributions are shown. It is only done for easy observation. The tendency is also the same in the other years. In 1961, there existed two maxima, one in the class-interval of 42-48,000 spindles and the other lie within 60 to 80,000 spindles. But on 1967, disappearance of previous maxima and emergence of another two maxima are found clearly, one lie within 48-54,000 spindles and another is found in more than 100,000 spindles. Again in 1976 only one distinct maxima is found within 48 - 54,000. From the clear observation it can be said that if the maximum points are going higher it may be the result of enlarging the technical equipments of the previous one. One typical example of it is found in the size between 48 to 54,000 spindles installed. It has 6 units in 1961 and at present there are 12 units.

Size of Weaving Section and its changes :

Tables 32 and 33 show the nature and changing pattern of the weaving section of cotton milling industry of Bombay. Table 32 gives the frequency distribution of industrial units according to the number of looms installed and the Table 33 shows the absolute and relative changes of it.

The magnitude of the class-interval is taken to be 300.

Table 32: trends in the size of industrial units in the Cotton Mill Industry of Bombay.

Table 32

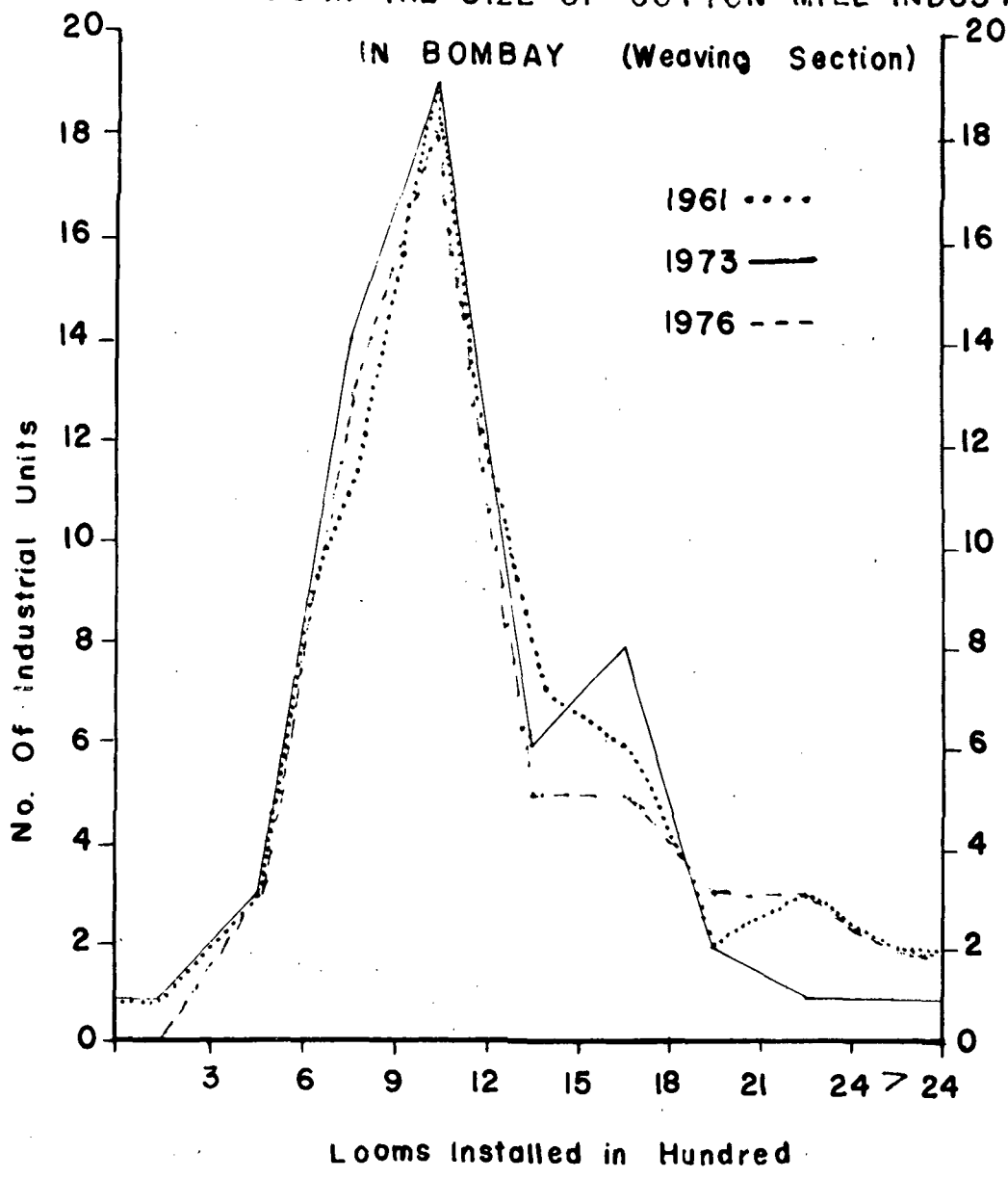
Weaving SectionFrequency Distribution of Loom Activity

Class-Interval (Looms installed)	1961	1965	1969	1973	1976
300 and below	1	1	1	1	-
300 - 600	3	3	3	3	3
601 - 900	14	10	11	13	13
901 - 1200	19	17	19	18	18
1201 - 1500	6	9	7	6	5
1501 - 1800	8	8	6	5	5
1801 - 2100	2	2	2	2	3
2101 - 2400	1	2	3	3	3
Above - 2400	1	1	2	2	2
Total	55	53	54	53	52

Table 331961-73 Weaving SectionRelative and absolute changes in group frequencies

Looms Installed	Frequencies		Variation in group frequencies between 1961-76 - 83 +	% share of each Class - interval		Changes in the % share of each class-interval - or +
	1961	1976		1961	1976	
300 and below	1	-	-	1.8	-	+ 1.8
300 - 600	3	3	-	5.8	5.6	- 0.2
601 - 900	14	13	- 1	25.5	25.0	- 0.5
901 -1200	19	18	- 1	34.7	36.2	+ 1.5
1201 -1500	6	5	- 1	10.8	9.3	- 1.5
1501 -1800	8	5	- 3	14.6	9.3	- 5.3
1801 -2100	2	3	+ 1	3.6	5.7	+ 2.1
2101 -2400	1	3	+ 2	1.8	5.7	+ 3.9
Above 2400	1	2	+ 1	1.8	3.1	+ 1.3
Total	55	52	- 2	100.0	100.0	

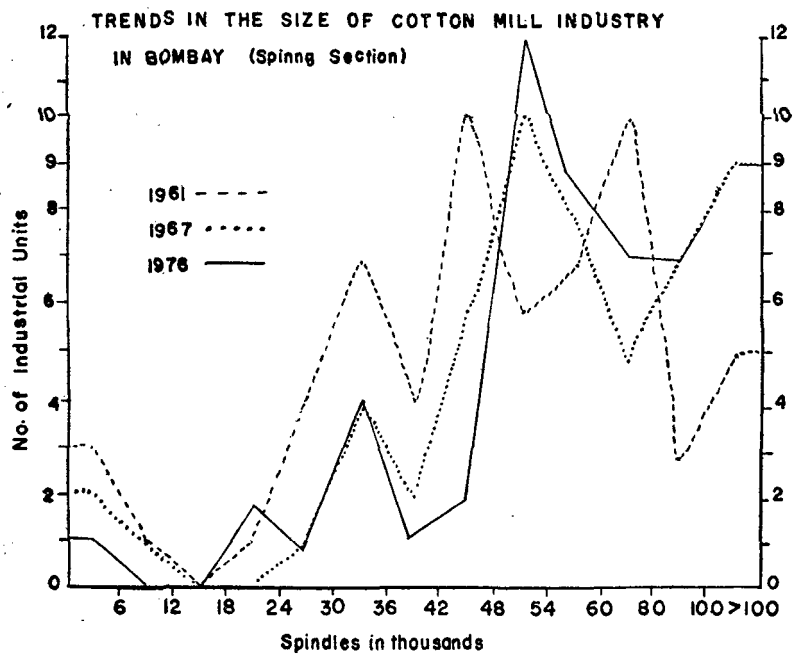
TRENDS IN THE SIZE OF COTTON MILL INDUSTRY
IN BOMBAY (Weaving Section)



It is striking to note that no material change has taken place from 1961 to 1976, in the size of weaving units in Bombay and its suburbs except a slight decline in the smaller group and slight incline in bigger units. Table 33 and the Fig. 37 show the tendencies quite clearly. It shows the existence of two typical size during the years 1961, 1970 and 1976 and they are existed having 601 to 1200 looms. In the percentage share of each class-interval it is found that the looms having 600 to 900 show slight downward movement. But it is very negligible only 0.5 per cent and in the case of class-interval lying between 900 to 1200 the percentage gone up by + 1.5 per cent. Therefore, it can be said that the production character in the weaving section shows no particular change as spinning section. So from the study of both the spindles and looms activity the production trends can be clearly understood.

Analysis of the size of combined spinning and weaving units:

An examination of nature, extent and character of spinning and weaving activities in the cotton mills in Bombay and its suburbs shows clearly that the relation between spinning and weaving section is very much diversified. There are many mills which are only engaged in spinning as the Raghuvanshi Mills Ltd. at Mahalaxmi in Bombay, and has no looms. They only sue spinning. Therefore, the common ratio i.e.



Trends in the size of cotton mill industry in Bombay

the 40 spindles for one loom is not found in many cases. Only 30 units out of 52 units in 1976 keep close ratio. This shows the less balanced structure of the mills. There are many causes of it. Important one is that the Bombay mills are intended to produce fine and superfine cloths so the ratio between the spindles and looms varies with units according to the character of output and degree of specialisation. In few cases it also varies from 25 to 70 spindles per looms.

Trends in the size of Industrial Units in the Cotton Mill Industry of the Rest of the State

The size of industrial units in the Cotton Mill Industry in the rest of the State shows several distinctive features. Such character of the mills are analysed in the following four tables. Tables 34, 35, 36 and 37 give the frequency distribution and their relative and absolute change in the number of spindles and looms in the rest of the State from 1961 to 1976 (Fig. 38).

Table 34Spinning SectionFrequency Distribution of Spindle Activity : 1971-76

Spindles Installed	1961	1964	1970	1975	1976
6,000 and below	1	2	2	3	3
6,001 - 12000	2	1	5	6	8
12,001 - 18,000	8	4	5	8	10
18,001 - 24,000	5	5	8	6	5
24,001 - 30,000	3	8	6	11	11
30,001 - 36,000	1	2	3	1	3
36,001 - 42,000	-	1	2	4	4
42,001 - 48,000	1	-	1	-	-
48,001 - 54,000	2	3	2	3	3
54,001 - 60,000	1	1	2	1	1
60,001 - 80,000	-	-	-	1	-
80,001 - 100,000	1	1	-	-	-
Above 100,000	2	2	2	2	2
Total	27	30	38	40	50

Table 35

Relative and Absolute Change in Group Frequencies

Class-Interval (Spindles Installed)	Frequencies		Variation in group frequencies between 1961 & 76 - or +	Percentage share of each class interval		Change in % share of each class- interval 1961 & 76 - or +
	1961	1976		1961	1976	
6,000 and below	1	3	+ 2	3.7	6.0	+ 2.3
6,000 - 12,000	2	8	+ 6	7.4	16.0	+ 8.6
12,001 - 18,000	8	10	+ 2	29.7	20.0	- 9.7
18,001 - 24,000	5	5	-	18.5	10.0	- 8.5
24,001 - 30,000	3	11	+ 8	11.1	22.0	+10.9
30,001 - 36,000	1	3	+ 2	3.7	6.0	+ 2.3
36,001 - 42,000	-	4	+ 4	-	8.0	+ 8.0
42,001 - 48,000	1	-	- 1	3.7	-	- 3.7
48,001 - 54,000	2	3	+ 1	7.4	6.0	- 1.4
54,001 - 60,000	1	1	-	3.7	2.0	+0.3
60,001 - 80,000	-	-	-	-	-	-
80,000 -100,000	1	-	- 1	3.7	-	- 3.7
100,000 - above	2	2	-	7.4	4.0	+ 3.4
Total	27	50	+23	100.0	100.0	

Table 36Weaving Section

Frequency Distribution of Loan Activity

Class-Interval (Looms installed)	1961	1965	1970	1975	1976
300 and below	3	3	4	4	4
301 - 600	11	11	10	10	10
601 - 900	1	1	2	1	2
901 - 1,200	5	5	4	5	4
1,201 - 1,500	-	-	-	-	-
1,501 - 1,800	-	-	-	-	-
1,801 - 2,100	1	-	-	-	-
2,101 - 2,400	1	2	1	1	1
Above 2,400	1	1	1	1	1
Total	23	23	22	22	22

Table 37

Weaving SectionRelative and Absolute Changes in Group Frequencies

Looms Installed	Frequencies		Variation in Group frequencies between 1961 - 76 + or -	Percentage share of each class -interval		Changes in the % share of each class. interval - or +
	1961	1976		1961	1976	
0 - 300	3	4	+ 1	13.1	18.2	+ 5.1
301- 600	11	10	- 1	47.9	45.3	- 2.6
601 - 900	1	2	+ 1	4.3	9.1	+ 3.8
901 - 1,200	5	4	- 1	21.8	18.2	- 3.6
1,201 - 1,500	-	-	-	-	-	-
1,501 - 1,800	-	-	-	-	-	-
1,801 - 2,100	1	-	- 1	4.3	-	- 4.3
2,101 - 2,400	1	1	-	4.3	4.6	+ 0.3
Above 2,400	1	1	-	4.3	4.6	+ 0.3
Total	23	22	- 1	100.0	100.0	

TRENDS IN THE SIZE OF INDUSTRIAL
UNITS IN COTTON MILL INDUSTRY
IN MAHARASTRA (Except Bombay)

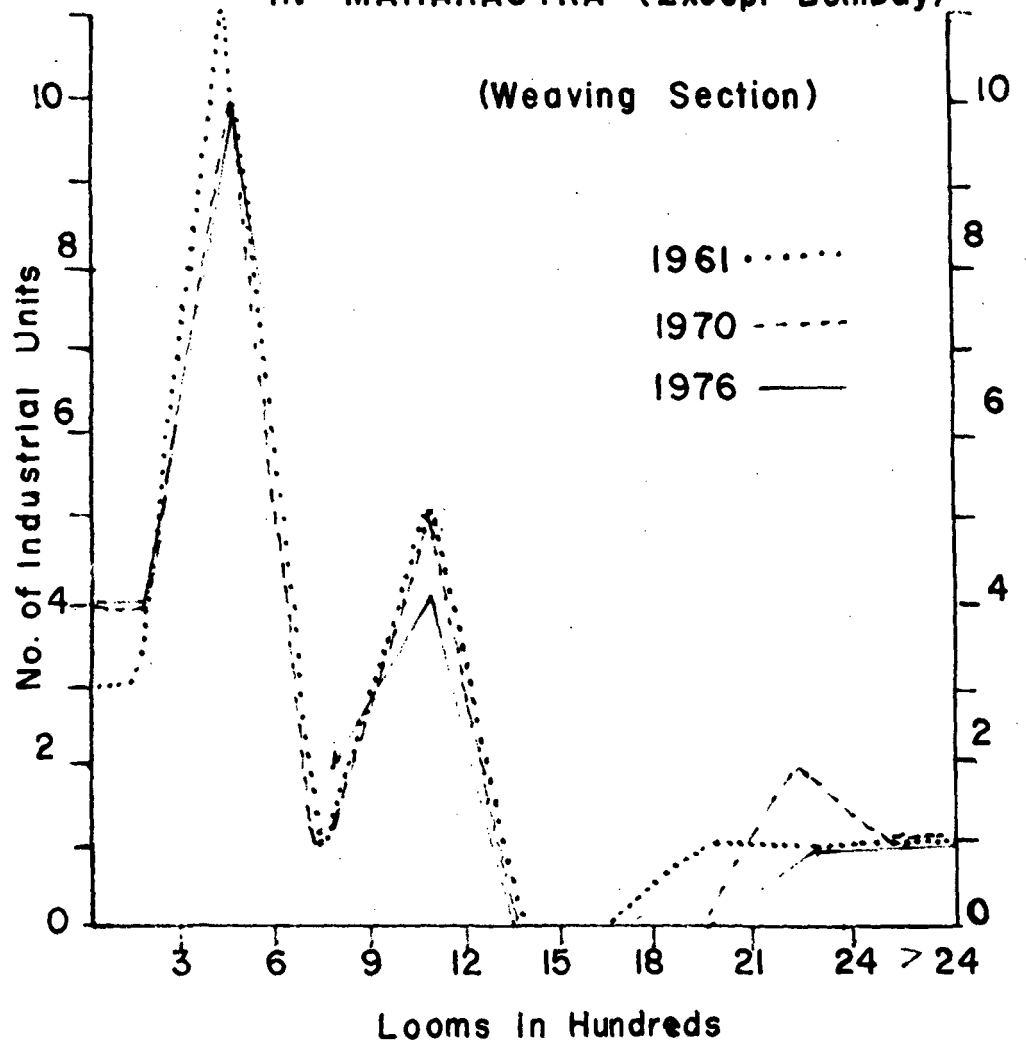


FIG. 39

Trends in the size of cotton mill industry

Basic of S.P. 20/70

A critical analysis of the above Tables and Figs. 38, 39 reveals many interesting features. The most striking feature is the existence of important regional variation in the size of cotton mills in the rest of the State. Whereas the majority of the spindles in Bombay and suburbs lies within 48 to 54 thousands, the majority of the mills in the rest of the State falls in class-intervals having 12 to 30,000 and the highest number of spindles are found only at Sholapur and Nagpur. Another important feature is found that many of units are mostly spinning in the character. In many mills weaving sectors are practically nil. Therefore, the ratio of mill structure i.e. 40 spindles for a loom found only in the 50 per cent of the mills here. This is not for its specialization. In many cases, it is found that many of the mills are newly located, even in 1970-75 also and they are established for supplying yarn to the weaving mills at Bombay and to the foreign markets. Previously they are established only for capturing the foreign and with it the vast inland market also. They also started primarily to take advantage of the large supplies of raw-cotton and large local markets. Therefore industrialist had to start the industry only depending not only on raw materials but also the capital, labour or organising ability and with the object of fulfilling the

needs of local markets so they organised on a small scale. Another important feature is found from the production variety of the mills in its course varieties. Production of course varieties involved a lesser production of loomage to spindleage than production of finer varieties. Most of the units operate on wide range of counts and weave many varieties/cloth and therefore the variation between the spindles and looms are so wide.

Regional Variation in Size

There are marked regional differences in the size of cotton mills of Maharashtra. Units are much smaller in size in the rest of the State except in few cases like Nagpur or Sholapur. Most of the units lie within 6 to 18 thousands spindles, eleven units lie within 24 to 30 thousands spindles and only two units lie above 100,000 spindles. Whereas in the city and island Bombay, the units are of sufficiently big size ranging from 36 to 48 thousands spindles. There are several reasons for the big size of Bombay mills. Most important of them, many of the units, located in Bombay are organised in the last quarter of the 19th century, principally with the object of supplying yarn to China and Japan. In the sphere of standardised products, the large mills had a definite advantage over small concerns. Therefore, the industrialist had to organise on a fairly large scale. Later, when this trade was lost these mills had to install weaving establishment and the larger size of their spinning sections

necessitated larger weaving sections. Secondly for a long time, the Bombay mills had almost a monopoly in the local market which enabled them to have a big size. The need for expansion was more actually felt in all old establishment centres of the industry, for they had to pay higher wages, rent and taxes as compared to the others located in the more interior centres. Methods of promoting and financing the industry in different centres also caused the local differences in size.

Table 33 will clearly show the regional differences in the size of industrial units in the cotton mill industry of Maharashtra. Generally speaking units are smaller in size in most of the interior area except Nagpur or Sholapur which are also established in early 19th century. Smaller size units are predominant in Thana, Sangli, Akola, Nasik, Nanded, Aurangabad, Jalgaon and also to the other centres. Therefore, it can be said that ample financial resources, the proximity of raw materials, consuming centres and the abundant supply of cheap and skilled labour provided the conditions for the establishment of large mill. These regional differences had also their theoretical as well as practical importance in identifying the 'Regional factors' and also places a very important role in determining the size.

Table 38

Regional Variation in the size of Cotton Mill Industry in Maharashtra except Bombay

Spindles installed	Thana	Puna	Kolhapur	Sangli	Sholapur	Dhulia	Jalgaon	Aurangabad	Akole	Amravati	Warudah	Nagpur	Osmanabad	Yeshwantmal	Nasik	Bandura	Ahmednagar	Nanded	Total
6,000 and below	1			1							1								3
6,000 - 12,000				1	1		1	1	1					1				2	8
12,001 - 18000				1	2		1	1	1				1		1	1	1		10
18,001 - 24,000					1				2	1								1	5
24,001 - 30,000	1		1		3		3			1		1		1					11
30,001 - 36,000			1				2												3
36,001 - 42,000		1		1							1							1	4
42,001 - 48,000																			x
48,001 - 54,000					1	1						1							3
54,001 - 60,000			1																1
60,001 - 80,000																			x
80,001 -100,000																			x
Above 100,000					1						1								2
Total :	2	1	3	4	9	1	7	2	4	2	2	3	1	2	1	1	1	4	50

Relation between size and rate of profit :

Size is an important element in determining the profitability of an industrial units. "The factors determining the profitability of an enterprise are so numerous, complex and in many instances so inextricably inter-related, that it is difficult to say whether increased profits are the result of enlarged size or some other extraneous and heterogenous factors, like imperfections of the markets, enlarged demand, increased tariff protection of even inflationary conditions prevailing in the country".¹ But the relation between the size and rate of profit is not only independent of cyclical variations, but also independent of the nature and character of the industry. There some difficulty arises in compiling such data. Important of them the balance-sheets for that purpose are not adequate. Only the rate of profit for the 36 mills in Bombay are available. Therefore, depending on them from Shareholders' Equity the relation between the size and rate of profit is drawn. The aggregate profit for 10 (ten) years from 1960 to 1970 is calculated. It is found from the table that the average sized mills are earning more profit than the maximum size. Again the smaller units are also gaining less profit. Table 39 indicates the nature and character of relationship between rate of return and size (Fig. 40).

1. Dr. M.M.Mehta, Structure of Indian Industries, 1955, p. 77.

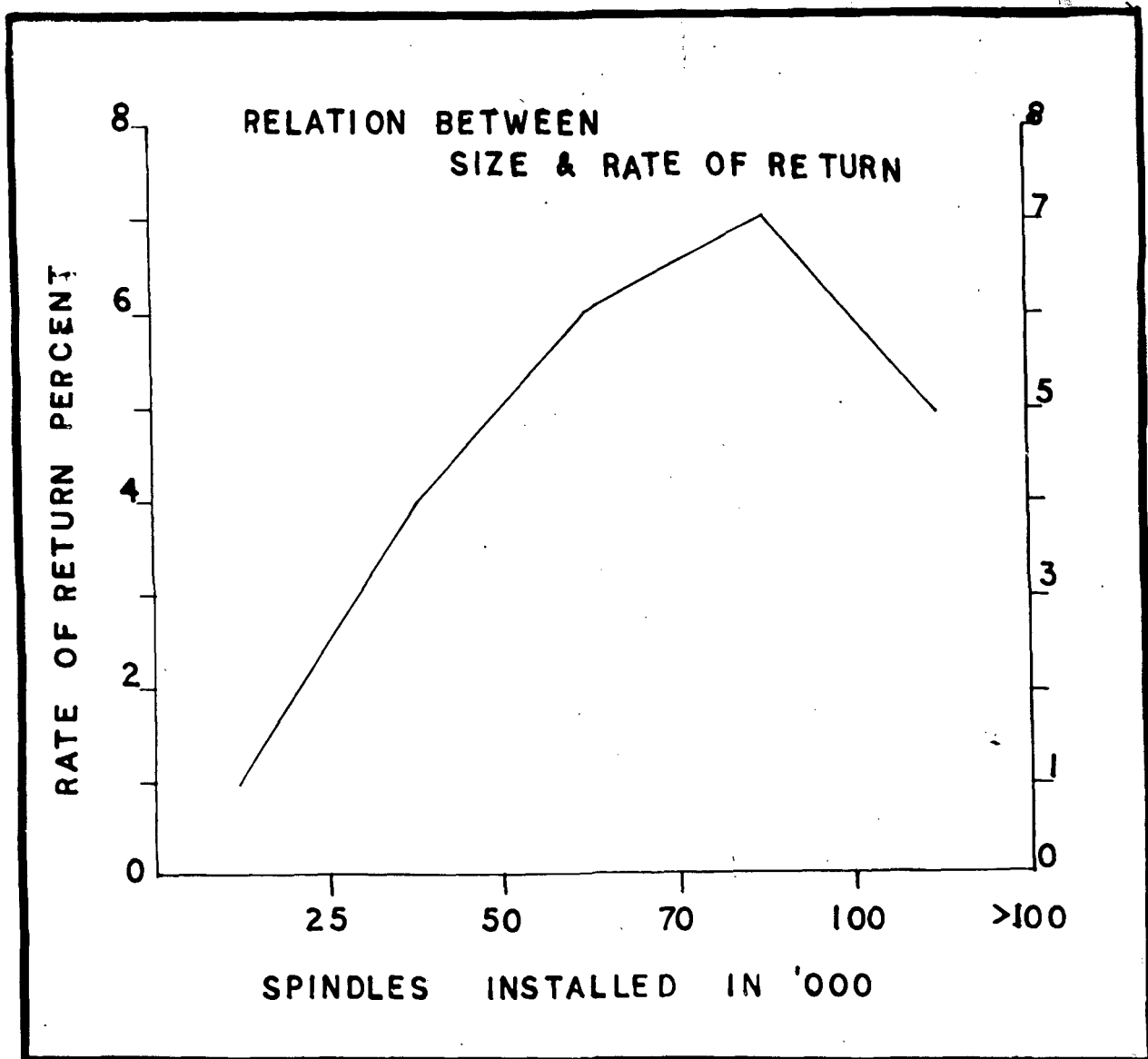


FIG. 40

Relation between size and rate of return

Table 39

Relation between size and rate of return on Shareholders
Equity in the selected 35 Cotton Mills of Bombay

Size classification (units grouped according to the no. of spindles installed)	No. of Units	Return of return % average 1960-1970
Below 25,000	4	2
25,000 - 50,000	13	4
50,000 - 75,000	9	6
75,000 - 1,00,000	3	7
Above 10,00,000	7	5

Therefore, it is significant to note that there is a relation between the size of the industrial unit and the rate of return of Shareholders' equity.

In August 1968, the Textile Re-organisation Committee (popularly known as Manubhai Committee) appointed by the Government of Gujrat, made a study of the profitability of textile mills according to size of the units in terms of number of looms installed. The results are given in table below (Fig. 41).

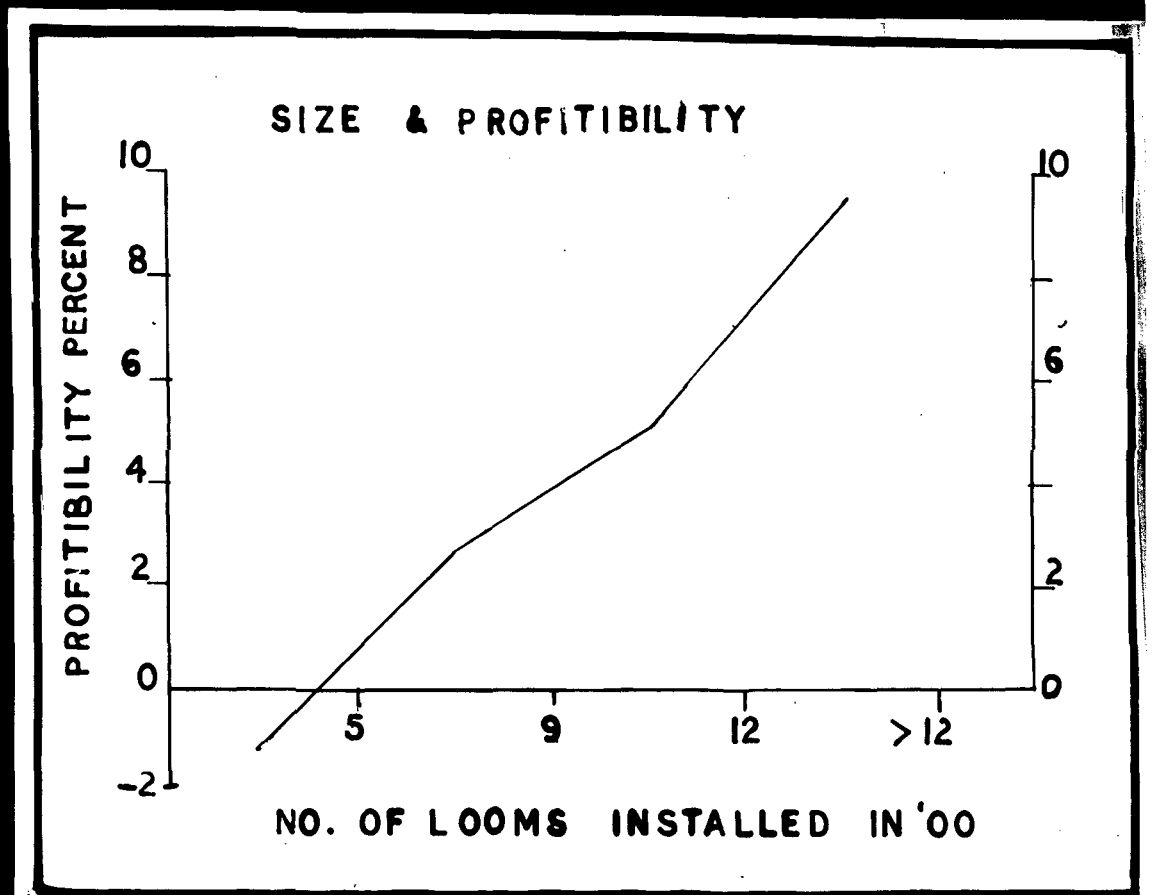


FIG 41

Relation between size and profitability

Table 40

Size and profitability

No. of looms installed	No. of Units	Net profit % as net sale	Profit/loom per year Rs.
Upto - 500	8	- 0.03	- 233
501 to 900	29	+ 1.39	+ 405
901 to 1200	11	+ 2.37	+ 887
Above 1200	7	+ 9.06	+ 4510

"It will be unwise to jump to the conclusion that all the smaller units are uneconomic but the above study reveals the trend along with other factors such as inefficient management etc. the size of the unit does affect the profitability of the Unit." All existing mills having less than 50,000 spindles should be raised to that size and new spinning units only of 50,000 spindles or 50,000 spindles and 1,000 looms should be licensed. Capacity below that, in our views, is uneconomic. Another important feature is found in the average rate of return on shareholders' equity for the period 1960-70. The higher rate of return percentage is within 3 to 8 per cent. 13 units lie within that.

Table 41Difference in the rate of return on Shareholders' Equity

Rate of return	No. of Units
Less than 1	8
1 to 4	8
4 to 8	13
8 to 12	7
Total	36

"The lack of perfect relationship between size and rate of return follows from the fact that size is not only factor which determines the profitability of an industrial unit."³ Different factors are responsible for it, such as, variation in demand and price, degree of interval and external competition measure of state protection, extent of mechanical and technical efficiency achieved, advantage of location etc.

3. Dr. M.M.Mehata, Structure of Indian Industries, 1955, p. 114.